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CORPS OF ENGINEERS DETROIT MICH DETROIT DISTRICT
SOUTHEASTERN MICHIGAN WASTE WATER MANAGEMENT SURVEY SCOPE STUDY.--ETC(U)
MAY 74

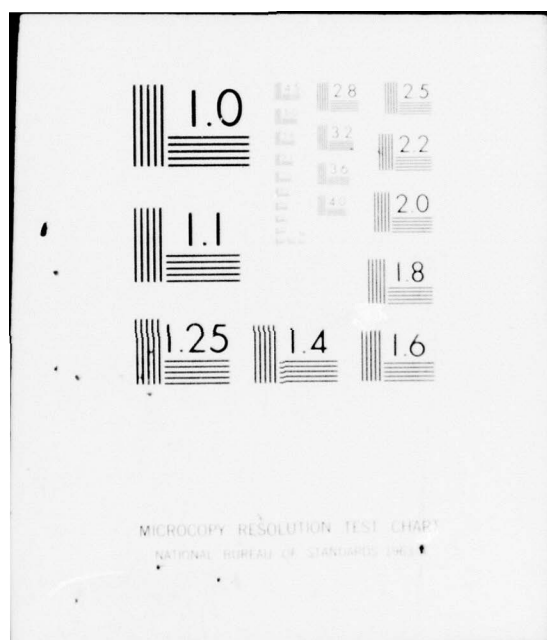
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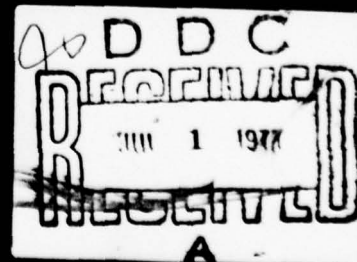
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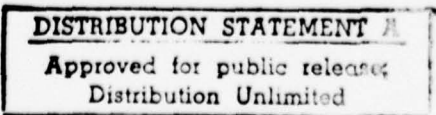


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SUMMARY REPORT OVERVIEW OF STUDY



REC'D JUL 1 1977

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
INTRODUCTION	1
COMMENTS	1
SUMMARY OF COMMENTS RECEIVED AND RESPONSES	4

Attachments

<u>Letter</u>	<u>Title</u>
A	Comments of Agencies
B	Statements Presented at 11, 12 and 13 December 1973 Public Meetings

INTRODUCTION

The purpose of this appendix is to document views expressed by governmental agencies and interested citizen groups and individuals, based on their review of the draft report and the response of the Detroit District to their comments. This appendix does not document the total coordination and proceedings by the Detroit District with other interested and participating governmental agencies during the conduct of the study. That coordination was accomplished principally through the Coordinating Committee which consisted of representatives of Federal, State of Michigan, Regional, and Local governments and an organized citizens group. In addition to the Committee meetings held throughout the study period, frequent communications with those specific agencies were made. Briefings and workshops were also conducted with city and county governmental agencies of the region. The Public Participation Appendix chronicles and documents those meetings.

The draft Summary Report was published in November 1973. Of the 200 copies of the report distributed in Michigan, 25 were placed in public libraries to provide public with access to them. The remaining copies were provided to the State, regional, county and city governments and interested individuals upon which the report has a potential impact.

COMMENTS

Reviews of the draft reports were received through two media. The four final public meetings conducted during the period of 11 through 13 December 1973 provided a forum for comment by governmental agencies, public organizations and citizens. A summary of the comments made at the public meetings and the questions asked appears in the Public Participation Appendix. Those prepared comments made by individuals representing governmental agencies or public interest groups are presented as attachments to this appendix in Section B. A listing of those agencies or groups and their representatives follows:

Senator Alvin DeGrow - Michigan State Senator, 28th District
Mr. Joseph Price - Director of Public Works, Washtenaw County
Mr. Thomas E. Bletcher - Deputy Drain Commissioner, Washtenaw County
Monroe County Board of Commissioners
Mr. Charles Blessing - Director-Secretary, City of Detroit
Monroe City Planning Commission
Mr. Gerald Hummel - City Engineer, City of Port Huron
Mr. Bruno Zane, P.E. - Dundee Cement Co., Dundee, Michigan
Mr. William J. Pollard - Citizens Opposed to Super Sewer
Mrs. Jeanne Micka - Pointe Mouillee Waterfowlers Association
Mr. Keith I. Siebarth - Citizen's Pollution Control Association
Mr. Lawrence Liebold - Lake Erie Advisory Committee
Mr. Howard McNee - Organic Farmers and Gardeners of Michigan
Mrs. Verona Morse - League of Women Voters
Mrs. John Donaldson - Birmingham-Bloomfield League of Women Voters
Mr. John R. Iacoangeli - Department of Community Development, Monroe

The second review medium consisted of written responses to the draft report. The responses included technical review by affected governmental agencies and statements made by concerned citizens. A large number of citizen responses were received and are reported in the Public Participation Appendix. The majority of their concerns are reiterated in the comments expressed by agencies and interest groups as reported in Attachments A and B of this Appendix.

The following governmental agencies and interest groups provided written comments on the draft report; these are in Attachment A of this Appendix.

Federal

1. United States Department of Agriculture Soil Conservation Service
2. United States Department of Health, Education and Welfare, Public Health Service, Food and Drug Administration, Region V.
3. United States Department of the Interior:

- a. Bureau of Outdoor Recreation.
- b. Bureau of Sport Fisheries and Wildlife.
- c. Geological Survey.

- 4. United States Environmental Protection Agency,
Region V.

State

- 5. Department of Natural Resources.
- 6. Department of State Highways and Transportation.
- 7. Representative Raymond J. Snit, P.E., Michigan House of
Representatives.

Regional

- 3. Southeastern Michigan Council of Governments.

Local

- 9. Greater Port Huron-Marysville Chamber of Commerce.
- 10. Township of Raisinville, Monroe County, Michigan.
- 11. Macomb County Planning Commission

Interest Groups

- 12. League of Women Voters of the Detroit Metropolitan Area.
- 13. Mrs. William H. Morse, League of Women Voters representative

on Study Coordinating Committee.

14. East Michigan Environmental Action Council.

15. Rouge Basin Coalition.

SUMMARY OF COMMENTS RECEIVED AND RESPONSES

The comments received on the draft were varied. Many of the comments or questions stemmed from a lack of understanding of the study and how it would be used in the future. Concerns centered around: system costs and the source of funds to operate such systems, use of rich agricultural land for waste treatment, and allocation of energy resources to wastewater treatment. Such concerns can only be answered by stating that the Corps of Engineers would not be the agency which would implement any wastewater management plan and that the Michigan Water Resources Commission and the U.S. Environmental Protection Agency have final responsibility for wastewater management in Southeastern Michigan. Valdas V. Adamkas, Acting Regional Administrator to Region V of the U.S. Environmental Protection Agency summarizes the feelings of the EPA on two of those points in the following statement extracted from Mr. Adamkas' letter (see page A-9).

"The alternative treatment methods presented in the Study require truly massive investments of both fiscal and energy resources, and are indicative of long-range wastewater management goals. What is presently needed then, especially in light of limited money and energy, is a plan of implementation to carry forward from present conditions. Such a plan must consider both the current availability of funds and the wastewater treatment facilities newly constructed from recent investments of public funds. Without such an implementation plan to carry on from current status, the very ambitious alternatives provided in the Study probably could not be seriously considered for implementation at any time within the foreseeable future. While we understand that the emphasis of the Study was to consider alter-

natives to meet the no discharge of critical pollutants goal, we make the above point to direct any further studies towards immediately implementable solutions for the complex pollution problems in the Southeast Michigan area."

Other comments, particularly those submitted by local government agencies stating their position on wastewater management, can only be brought out in this appendix and referred to the State of Michigan for their consideration in future wastewater management planning.

Comments submitted by the Southeast Michigan Council of Governments (pages A-18 through A-26) were directed particularly to the Summary Report and the Institutional Arrangements Appendix. The comments on the Institutional Arrangements Appendix were forwarded to our consultant for this appendix Johnathan Bulkley at the University of Michigan for consideration in his review of that document. The comments presented on the summary report were also considered by the district staff in finalizing the Summary Report.

The discussion which follows is a compendium of concerns expressed by individuals or agencies and answers to those concerns.

Concern: That the Huron River interceptor system which would convey wastewater from Ann Arbor and Ypsilanti to the mouth of the Huron River would result in a severe reduction in the flow of the Huron River.

Answer: It was recognized that a system which would allow large water withdrawals from the Huron River and not return that water to the river would not be acceptable. It was therefore concluded that installation of an interceptor along the Huron River would require that the cities of Ann Arbor and Ypsilanti acquire new sources of water supply.

Concern: That the true cost of one of the Representative Plans would be the cost listed for that plan plus the cost for the Interim Water Quality Plan.

Answer: Each of the alternative plans was designed to attain a specific water quality goal. The Interim Water Quality Plan to achieve the 1983 objectives of the law and the Representative Plans to approach the 1985 goal of the law. Each plan could be implemented so that the interim objectives of the law could be met. However, it must be recognized that implementation of the Interim Water Quality Plan would preclude implementation of any of the Representative Plans presented in this report. If the Interim Plan was selected for implementation, the "no discharge of pollutants" goal could best be met by designing a new plan which would take into account those facilities constructed for the Interim Plan.

Concern: That the amount of combined sewer overflow and urban runoff control proposed by the study was too vast and not realistic.

Answer: The amount of pollutant control provided by the proposed storm runoff treatment system attempts to approach the amount of pollutant control provided in the proposed municipal-industrial wastewater treatment system. This was based on the attempt to meet the anticipated goal of Public Law 92-500 for "no discharge of pollutants". It is recognized that other methods of minimizing pollution from stormwater sources are available but they would not meet the degree of protection being sought.

Concern: That the deep tunnels proposed for the system would seriously reduce the level of the groundwater table in service area.

Answer: It has been pointed out in the report on geological considerations for this study, that during the construction of these tunnels copious volumes of ground water may be encountered if solution enlarged joints, fractures, and bedding planes along which this water flows are intersected. Continuous pumping to relieve the water problem during construction could cause a change in the groundwater table. These routes for ground water entry into the tunnels would be sealed prior to lining of the tunnel in these areas. This would minimize any effects on the ground water by these tunnels after they are built.

Also, an impervious layer exists between the hard rock tunnels and the ground water table near the surface, along many of the proposed tunnel routes. This would help minimize infiltration to the tunnel.

The tunnels would not inhibit percolation of rainfall into the ground water since they would be conveying only water that would have run off because of the impervious nature of the surface on which it fell such as a street, roof, or parking lot. Since many of the streams in the area do not feed the ground water table; after it has runoff its percolation potential is limited even in the natural state.

Concern: That the loss of storm flows would reduce the capability of the watershed to maintain adequate minimum stream flows during dry periods.

Answer: Additional investigation has been recommended in the fields of hydrology, geology, and stormwater treatment prior to implementation of any portion of the proposed stormwater system. The nature of the effects of the system on some of the streams in the area is a prime example for further investigations. Investigations to date show that the effect would be directly proportional to the percent of the stormwater service area within each basin. The Rouge Basin has the largest percentage of its area within the stormwater service area and would therefore be affected to a greater extent than any other major tributary in the study area. However, the effect would be reduced by the stormwater treatment plant proposed in the upper reaches which discharges treated stormwater effluent back to the river. A similar plant has been proposed on the Huron River. These stormwater treatment facilities would discharge stormwater at a more even rate than would occur naturally. This would tend to even out the peaks and provide the potential for increasing the average daily flow rate.

Concern: That spoils from tunnel construction could result in unsightly piles of rubble if plans for proper disposal are not developed.

Answer: Much of the material removed during hard rock mining operations should be suitable for a variety of applications as construction material. That material which is not suitable or exceeds the needs of local construction would have to be disposed of so as not to create a nuisance. Planning for disposal of those materials would be a necessary part of the final design of such a system.

ATTACHMENT A

COMMENTS OF AGENCIES

<u>From</u>	<u>Date</u>	<u>Page</u>
United States Department of Agriculture, Soil Conservation Service	17 January 1974	A-1
United States Department of Health, Education, and Welfare, Public Health Service, Food and Drug Administration, Region V	2 April 1974	A-2
United States Department of Health, Education, and Welfare, Public Health Service, Food and Drug Administration, Region V	14 February 1974	A-3
United States Department of the Interior: Bureau of Outdoor Recreation	8 January 1974	A-4
Bureau of Sport Fisheries and Wildlife	26 February 1974	A-6
Geological Survey	20 February 1974	A-8
United States Environmental Protection Agency, Region V	19 February 1974	A-9
Michigan Department of Natural Resources	21 February 1974	A-14
Michigan Department of State Highways and Transportation	24 January 1974	A-16

Raymond J. Smit - Michigan House of Representatives	25 April 1974	A-18
Southeast Michigan Council of Governments	5 February 1974	A-21
Macomb County Planning Commission	12 March 1974	A-30
Greater Port Huron - Marysville Chamber of Commerce	7 January 1974	A-33
Township of Raisinville, Monroe County, Michigan	28 December 1973	A-34
League of Women Voters of the Detroit Metropolitan Area	24 January 1974	A-35
Mrs. William Morse	25 January 1974	A-38
East Michigan Environmental Action Council	29 January 1974	A-40
Rouge Basin Coalition	28 January 1974	A-41

FEB 1974

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE Room 101, 1405 S. Harrison Road
East Lansing, Michigan 48823

January 17, 1974

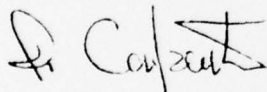
Colonel James E. Hays
District Engineer
U. S. Army Engineer District, Detroit
Attn: Urban and Special Studies Section
P. O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hays:

We appreciated the opportunity to review the study reports for the
Southeastern Michigan Wastewater Management Study.

Our participation throughout the study has provided us ample opportunity
to offer comments. We have no comments at this time.

Sincerely yours,



David Carpenter
USDA Coordinating Committee Member





DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
FOOD AND DRUG ADMINISTRATION
REGION V

OFFICE OF THE REGIONAL
FOOD AND DRUG DIRECTOR
AT THE SERVICE EXCHANGE BUILDING
130 W. JACKSON STREET
CHICAGO, ILLINOIS 60604
TELEPHONE: 312-355-1046

April 2, 1974

Mr. P. McCallister
Chief, Engineering Division
Department of the Army
Detroit District, Corps of Engineers
P. O. Box 1027
Detroit, MI 48231

Dear Mr. McCallister:

REF: NCEED-PB
Southeastern Michigan Waste Water Management Study
Social Evaluation, Zone Analysis and Appendix A to
Hygienic Report

Dear Sir:

This office has reviewed the referenced document. We have
no comments at this time. We are returning to you for your
further use.

Sincerely,

Jerome F. Wytrykus
Jerome F. Wytrykus
Regional Interstate Travel
Sanitation Consultant
National Consultants Programs Branch

cc: Donald C. Heaton
Eugene R. Stanley



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
FOOD AND DRUG ADMINISTRATION
REGION V

February 14, 1974

OFFICE OF THE REGIONAL
FOOD AND DRUG INSPECTOR
A 1945 INSURANCE EXCHANGE BUILDING
175 W. JACKSON STREET
CHICAGO, ILLINOIS 60604
TELEPHONE 312 333-1246

District Engineer
U. S. Army Engineer District, Detroit
ATTN: Urban and Special Studies Section
P. O. Box 1027
Detroit, Michigan 48231

Re: Southeastern Michigan Wastewater Management Survey Scope
Study

Dear Sir:

This office has reviewed the draft study documents regarding the referenced matter which were forwarded to this office by Mr. P. McCallister, Chief, Engineering Division, Detroit District Corps of Engineers.

We have no adverse comments regarding this study, and are returning the draft documents to you for further use as you may wish.

Sincerely,

Eugene R. Stanley

Eugene R. Stanley
Assistant Regional Food and Drug Director
for Compliance

6 Enclosures:

1. Background App.
2. Plan Formulation App.
3. Design & Cost App.
4. Evaluation App.
5. Aesthetic Assess.
6. Public Participation App.



United States Department of the Interior

BUREAU OF OUTDOOR RECREATION

LAKE CENTRAL REGION
3853 RESEARCH PARK DRIVE
ANN ARBOR, MICHIGAN 48106

IN REPLY REFER TO:

D6427 GL
SE Michigan

January 8, 1974

District Engineer
U. S. Army Engineer
District, Detroit
Attention: Urban & Special Studies Section
P. O. Box 1027
Detroit, Michigan 48221

Dear Sir:

We have reviewed the draft of the Summary Report for the Southeast Michigan Wastewater Management Survey Scope Study per your memorandum of December 18, 1973.

We agree that any improvement of water quality in the streams and lakes of southeastern Michigan will be beneficial to recreational interests. However, we raise the following points for your consideration.

1. The report indicates that buffer areas for most wastewater treatment facilities have potential for open space or recreational areas. We have some reservations about the use of such buffer areas for intensive recreational development, but open space and non-intensive recreation uses would appear to be compatible with the treatment facilities.
2. The removal of storm water flows from stream valleys would increase the recreation potential of the flood plains through which these streams flow. However, we are concerned that the loss of peak flows may reduce the capability of the watershed to maintain adequate minimum flows during dry periods and, thus, adversely affect the recreation potential of the stream. Only the Huron and Rouge Rivers would receive supplemental flows from proposed stormwater treatment plants at Plymouth and Ypsilanti. It should be noted, also, that developmental interests would be aggressive in the development of the affected flood plains for residential, commercial, industrial, and other intensive uses. Therefore, these areas must be committed to recreational uses quickly to avoid their loss for that purpose.

3. The cessation of sewage effluent discharges into the Huron River at Ann Arbor and Ypsilanti would greatly improve water quality of the stream and would benefit recreation accordingly. However, the piping of sewage effluents from Ann Arbor and Ypsilanti to the mouth of the Huron River for treatment could reduce river flows downstream from Ann Arbor and adversely affect the recreational potential. The net impact on flows as a result of sewage effluent losses and treated storm water gains should be determined in order to evaluate the corresponding impacts on recreation.
4. The report does not address the problem of spoil disposal from tunneling operations for transport of storm waters. The volume of these materials would be very large, and if the spoil is not properly disposed of, aesthetic and other impacts may occur. Consideration should be given to the proper utilization and disposal of these materials.

We thank you for the opportunity to review and comment on this report.

Sincerely yours,

Robert H. Cherry
for John D. Cherry
Regional Director



United States Department of the Interior

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
GREAT LAKES AREA OFFICE
Room 301, Manly Miles Building
1405 S. Harrison Road
East Lansing, Michigan 48823

IN REPLY REFER TO:

February 26, 1974

Colonel James E. Hays
U.S. Army Engineer District,
Detroit
P.O. Box 1027
Detroit, Michigan 48231

Attn: Urban and Special Studies Section,
Planning Branch

Dear Colonel Hays:

We have reviewed the Draft Report of the Southeastern Michigan Wastewater Management Survey Study and offer the following comments.

Generally the report is informative and reflects considerable efforts in planning during the development of regional wastewater management alternatives for Southeastern Michigan. However, we do have comments on appendices as follows:

BACKGROUND APPENDIX

Page 14, Biological Resources--This section should contain an estimate of waterfowl numbers concentrated in the area during spring and fall migrations. It should also relate the percentage of waterfowl which remains in the area to nest in the spring.

The description of the waterfowl habitat would be accented if the 25 species of waterfowl mentioned were listed by relative abundance.

The trend of waterfowl population growth and habitat destruction and development should be discussed in this section. The effect of pollutants on waterfowl and their habitat in the area should be discussed. This section is completely void of information on terrestrial wildlife species and shore birds. In order to present a better scope of biological resources, a thorough discussion of shore birds and terrestrial wildlife is needed.

Page 15, Sport Fishing--This section should be expanded to indicate the species of indigenous sport fish and the annual angler day use. If sport fishery management programs exist in the study area, they should be discussed. In addition a section on the commercial fishing industry including the species and tonnage of the annual harvest in the Southeastern Michigan area should be included.

PLAN FORMULATION APPENDIX

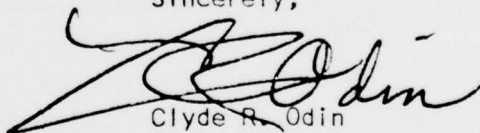
Page 125, Discussion of Impacts--This section does not depict the impact that implementation of any of these plans would have on terrestrial wildlife. The placement of new treatment plants and required facilities including sludge disposal sites will certainly have some adverse effects on terrestrial wildlife habitat.

EVALUATION APPENDIX

Page 172, Evaluation of Final Plans--The comment on the Plan Formulation appendix above is also applicable to this section of the Evaluation appendix.

The opportunity to review the Draft Report of the Southeastern Michigan Wastewater Management Study is appreciated.

Sincerely,


Clyde R. Odin
Supervisor

CC: RO, Twin Cities, MN (ES)



United States Department of the Interior

GEOLOGICAL SURVEY
2400 Science Parkway
Okemos, Michigan 48864

February 20, 1974

Colonel James E. Hays
District Engineer
U.S. Army Engineer District, Detroit
ATTN: Urban & Special Studies Section
P.O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hays:

We have received copies of six draft reports prepared as part of the Southeastern Michigan Wastewater Management Survey Scope Study. Mr. McCallister, in transmitting these reports on February 12, requested our review and comment. Most of the material contained in these reports is outside our principal area of competence, and because of this fact, we will withhold comments on these particular reports. We will, of course, always be pleased to comment when we feel we are qualified to do so.

Sincerely yours,

T. Ray Cummings
District Chief

TRC/bak



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
1 NORTH WACKER DRIVE
CHICAGO, ILLINOIS 60606

FEB 19 1974

Colonel James E. Hays, District Engineer
U.S. Army Engineer District Detroit
Attn: Urban & Special Studies Section
P.O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hays:

This is in response to your request of January 11, 1974 for comments on the Corps of Engineers' Southeastern Michigan Wastewater Management Study.

The Study, to the extent completed, reflects a commendable effort by the Corps of Engineers to detail the considerable wastewater treatment needs for the Southeast Michigan area which would be required to meet the ambitious goals of "no discharge of critical pollutants" as provided for in Public Law 92-500. Of particular value is the information providing insight into methods and costs involved in meeting the national water quality goals for this particular area. The Summary Report provides a good and necessary wrap-up of the feasible alternatives and their costs.

The alternative treatment methods presented in the Study require truly massive investments of both fiscal and energy resources, and are indicative of long-range wastewater management goals. What is presently needed then, especially in light of limited money and energy, is a plan of implementation to carry forward from present conditions. Such a plan must consider both the current availability of funds and the wastewater treatment facilities newly constructed from recent investments of public funds. Without such an implementation plan to carry on from current status, the very ambitious alternatives provided in the Study probably could not be seriously considered for implementation at any time within the foreseeable future. While we understand that the emphasis of the Study was to consider alternatives to meet the no discharge of critical pollutants goal, we make the above point to direct any further studies towards immediately implementable solutions for the complex pollution problems in the Southeast Michigan area.

The Study puts significant importance on high level treatment of all storm-water runoff. This may not be totally justified from either a water quality or a cost effective standpoint. In general, EPA policy has been to promote

FEB 19 1974

-2-

at least primary-level treatment and disinfection of flows from combined storm-sanitary sewers, and other measures necessary to insure attainment of water quality standards. There has been no clear-cut statement of policy as to treatment of flows from single purpose storm sewers. Impairments to water quality resulting from overland flows must be considered non-point source pollution, but the entire problem must be studied in some detail before judgements may be made as to the level and/or feasibility of treating flood flow. Any further studies in the combined sewer-stormwater control area should probably concentrate on defining the proposals briefly described in the "Interim Water Quality Plan" covered in the Summary Report. Also, proposals for less stringent treatment for stormwater would make the other tremendously expensive alternatives less financially restrictive.

The Study gives considerable attention to land disposal of sewage and sludge. As you know, EPA is financing some of the research aspects of a full scale land treatment system at Muskegon. We feel that findings as to the long-term environmental effects of such a system must be in hand before consideration can be seriously given to such a massive total land treatment system as envisioned by the Study for Southeast Michigan. Social acceptability and prohibitive financial costs also appear to dictate against such a system at this time. However, a small scale concept of "wastewater irrigation using privately owned farmland" may have sufficient merit to encourage further exploration or refinement, and identification of potential projects.

The Study presents wastewater treatment alternatives that are capable of treating combined municipal-industrial wastewater. It is not clear, however, whether the Study anticipates treating all industrial wastewater produced in the Southeast Michigan area, or only a portion as is the current situation. Any further studies should clearly indicate needed expansions of the interceptor system sufficient to handle the entire volume of anticipated waste flows. Also, any further studies should provide considerably more detail on interceptor needs and locations.

In conclusion, there is no question that this study provides a valuable tool for assessing the "no discharge of critical pollutants" objective, and provides a genuine feel for the magnitude of fiscal and energy resources needed to meet this objective. However, we believe that any further planning efforts should be directed toward facilitating preparation of immediately implementable Section 201 (PL 92-500) Facilities Plans by the appropriate agencies to meet prescribed treatment levels as soon as possible. These levels of treatment would appear to be Best Practicable Waste Treatment Technology plus sufficient combined sewer control to meet water quality standards, rather than the long-range goals of no discharge. Such planning

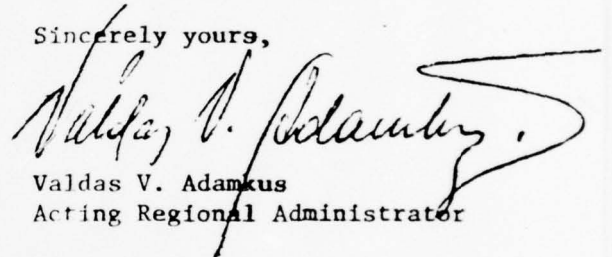
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efforts would necessitate full partnership and agreement of State and local governments and would be in accord with the most recent policy directives concerning this matter (copy attached). It would therefore appear that concerns of further planning should concentrate on upgrading wastewater treatment plants and controlling sanitary and combined sewer discharges. Secondary importance should be put on pollution control of storm sewers and drains; non-point source pollution problems would then have the lowest planning priority.

We appreciate the chance to review the Study and, again, commend the Corps for its highly informative efforts. ✓

Sincerely yours,



Valdas V. Adamkus
Acting Regional Administrator

Attachments:
a/s

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Guidelines for Conducting Wastewater Management
Studies of the Corps of Engineers

DATE: June 7, 1973

FROM: Assistant Administrator for Air & Water Programs

TO: All Regional Administrators

The FY 1974 budget request makes provision for continuation of a wastewater planning effort by the Corps of Engineers.

A year ago ground rules were developed relative to the conduct of the Wastewater Management portion of the Corps' planning program so as to enlighten personnel of both the Department of the Army and the Environmental Protection Agency as to pertinent Executive Branch policy.

Since then legislative amendments have been adopted which makes it necessary to up-date the guidelines so that they may apply appropriately to all wastewater management studies of the Corps of Engineers, effective at once. The revised guidelines follow.

1. Cost-sharing - Cost-sharing for the Corps of Engineers' program will be identical to that under the EPA construction grant program since facilities planning is considered to be part of and implicit in the construction grants program as required under Section 201 of the Act as amended; i.e., with 75 percent Federal contribution and 25 percent non-Federal. The non-Federal share may be in forms of services and/or cash contribution. Other Federal funds may not be used to make up any part of the 25 percent non-Federal share must represent additional new effort specifically required in the conduct of the study. For example, the non-Federal share shall not include costs of data already collected or normally to be collected for an ongoing program, nor shall it include funds used for matching other Federal funds.

2. Plan of Study - A detailed Plan of Study will be prepared for each wastewater management study undertaken as part of its urban studies program, and prior to initiation of the Corps of Engineers' planning will be approved and formally adopted by the local planning agency, the State (or States), the EPA, and the Corps of Engineers. As shown in attached Table 1 which was prepared a year ago for the Colorado River of Texas Plan of Study when cost-sharing was 50/50, the items of work to be performed by Federal and non-Federal interests must be presented in detail and estimates made of costs and man-years for each item, with non-Federal contributions on the new basis to be not less than 25 percent of the total effort. The 75-25 sharing basis of course will be applicable to total wastewater planning costs following approval of the Plan of Study by the appropriate agencies. The Plan of Study will be developed in sufficient detail to ensure that there will be no duplication of planning effort. In those cases where planning is being conducted with EPA planning grant funds the proposed planning effort of the Corps will include only those activities which will be non-duplicative.

3. Objective - Wastewater management in the various urban areas under the Corps of Engineers' planning has the same objective as does planning under the EPA programs an approved wastewater management plan developed in the context of a full and complete examination and evaluation of alternatives arriving at a decision for implementation as required in Title 40, Part 35 on Grants for Construction of Treatment Works. To assure attainment of the objective, a full partnership and agreement of State and local governments is required. Definitive plans must focus on the immediate situation including existing applicable water quality standards and 20 year projections of needs but no later as to time. In addition, a range of alternative plans responsive to the objectives of the Act as specified in Section 101(a) and considering the social, economic, technical, and natural effects at achieving these objectives will be provided.

4. Plan Implementation - Wastewater management plans developed with the assistance of the Corps of Engineers, after certification by the State and approvably EPA, shall be utilized for evaluating municipal construct an grant applications on the same basis as any other approved water quality plans.

The guidance contained in this memorandum has been reviewed by the Office of Management and Budget. Identical memoranda are going to field offices from both the Corps and EPA.

Robert L. Sanson

NATURAL RESOURCES COMMISSION

E. M. LAITALA

Chairman

CARL T. JOHNSON

HILARY F. SNELL

HARRY H. WHITELEY

CHARLES G. YOUNGLOVE

STATE OF MICHIGAN



WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926

A. GENE GAZLAY, Director

February 21, 1974

WATER RESOURCES COMMISSION

JOHN P. WOOLFE

Chairman

ALVIN R. BALL

Vice Chairman

CHARLES D. HARRIS

JOHN E. VOGL

STANLEY G. BAKER

THOMAS J. JAMES

JOHN H. KATZ

Colonel James E. Hays
District Engineer
Detroit District Office
Corps of Engineers
P. O. Box 1027
Detroit, Michigan 48231

Re: Corps of Engineers Southeast Michigan
Wastewater Study

Dear Colonel Hays:

This is in response to your recent correspondence directed to this agency requesting comments on the Corps of Engineers Study Reports completed to date for the Southeastern Michigan Wastewater Management Study.

Although these reports have not been studied in great detail by our staff because of time availability constraints and because they are only a part of a complete study, a cursory review of the reports finished to date indicates that a substantial amount of potentially valuable work has been accomplished by the contractors employed by the Corps to prepare the reports. For example, the reports prepared by Dow Chemical Inc. and Michigan State University contain information that appears to be very useful for consulting engineers who will be required to investigate the cost effectiveness of a land disposal alternative as part of a project facility plan.

We feel the work that has been done concerning land disposal of wastewater by the utilization of publicly owned versus privately owned land areas has merit. We would have to agree with what we assume is also the Corps' position that the land disposal treatment technique utilizing vast areas of publicly owned lands is not a feasible alternative for wastewater treatment in the Southeastern Michigan Metropolitan Area. This view is held because of the strong adverse public reaction which the Corps experienced at its public meetings where this alternative was presented.

A-14

Colonel James E. Hays
Page Two
February 21, 1974

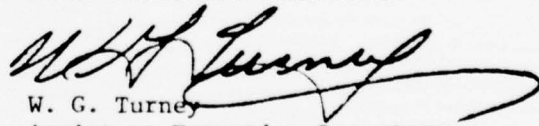
On the other hand, the Corps Study does indicate that land disposal utilizing private owned lands does appear to be a viable alternative although one must be cognizant of the real and difficult problems that this technique would encounter. The problems of public and governmental acceptability of food crops for direct consumption as well as the institutional arrangements that would be required may be insurmountable. Only time may tell if this would be true at some point in the future if population increases faster than the agricultural industry can sufficiently provide the necessary food as the amount of agricultural land decreases.

In addition, it is anticipated that much of the study can be used in the preparation of the Water Quality Management Study for Southeastern Michigan; this plan being a requirement under Section 303 (e) of P.L. 92-500. This would be true especially of those portions of the study which deal with land uses, existing water quality and geologic information.

In conclusion, it is expected that we would not be able to use the Corps' Study as the total wastewater management plan for Southeastern Michigan since some parts would not only be in conflict with our own interim plan, which we have already developed, nor with our anticipated plan as required under P.L. 92-500. However, it is highly expected that portions of the study will be useful both for facility planning and basin water quality management planning.

Very truly yours,

WATER RESOURCES COMMISSION


W. G. Turney
Assistant Executive Secretary

WGT/JMB/RE:pp

cc: R. Purdy
W. Marks
R. Courchaine
J. Bohunsky

HIGHWAY COMMISSION

E. V. ERICKSON
CHAIRMAN

CHARLES H. HEWITT
VICE CHAIRMAN

PETER B. FLETCHER

CARL V. PELLONPAA

STATE OF MICHIGAN



WILLIAM G. MILLIKEN, GOVERNOR

DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

STATE HIGHWAYS BUILDING - POST OFFICE DRAWER K - LANSING, MICHIGAN 48904

JOHN P. WOODFORD, DIRECTOR

January 24, 1974

Colonel James E. Hays
U.S. Army Corps of Engineers
U.S. Army District, Detroit
P.O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hays:

The Michigan Department of State Highways and Transportation has reviewed the Southeastern Michigan Wastewater Management Study and offer the attached comments for your consideration in preparing the final report for this project.

Sincerely,

A handwritten signature in cursive script that reads "Jack E. Morgan".
Jack E. Morgan, Assistant
Public Hearings Executive

cc: Bill Marks
Water Resources

A-16





STATE OF MICHIGAN

January 16, 1974

DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

To: G. R. Adams, Environmental Liaison
Transportation Planning Division

From: M. Rothstein
Engineer of Design

Subject: Review of Southeastern Michigan Wastewater Management Study

The Design Division has reviewed three of the nine volumes of this study that are available in the Michigan State Library. Our review was directed primarily to sections of the report dealing with hydrology.

The report indicates runoff estimates were made using Brater's method of infiltration capacity - unit hydrograph. Hydrologic design parameters were described in different ways in the different volumes of the report. For instance, the sewer system is designed to carry 10-year storm peak flows, regional storage systems are designed to handle 2.1" of runoff, and the system is to accommodate an annual runoff volume of 16.3", a 25-year statistic. This would, in turn, place our yearly rainfall at more than 64" according to the Michigan's rainfall-runoff relationships listed in the summary report.

Nowhere in the reports could we find the Department mentioned as a party to wastewater management, nor was highway right-of-way runoff mentioned. Further, the Department is not listed in the tabulation of state agencies having legislative direction to deal with wastewater.


Engineer of Design

DD:JVM:mpm

cc: J. E. Glab

A-17

House of Representatives



LANSING, MICHIGAN 48301

52ND DISTRICT
RAYMOND J. SMIT
BOX 117
LANSING, MICHIGAN 48901
PHONE:
AREA 517-373-1792

MEMBER OF COMMITTEES ON
CONSERVATION AND RECREATION
ROADS AND BRIDGES
STATE AFFAIRS

April 25, 1974

Colonel James E. Hays
District Engineer
Detroit District
U. S. Army Corps of Engineers
P. O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hays:

The following comments are offered on the Draft Report, Institutional Arrangements Appendix, of the Southeastern Michigan Waste Water Management Survey Scope Study. In the event you may wish to consider them, a separate listing of typographical corrections are noted.

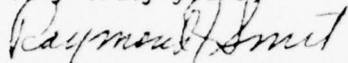
1. The Institutional Arrangements Appendix could be improved by including a historical analysis of what happened in terms of waste water legislation in Michigan. It would be helpful to an understanding of governmental structure if the Appendix could be expanded to indicate the sequence of events leading to our present multiplicity of laws and legislation related to waste water management.
2. On page 14 under E.(3)--Urban County--Act 185 of 1957 should be added to insure completeness since this legislation is of primary importance to the provision of waste water service by county governments in southeast Michigan.
3. On page 19, under C--Wastewater--I question the basic assumptions associated with the increased recycling of industrial wastewater. We often find pollution control objections enhanced by a joint industrial-municipal treatment effort. Also on page 19, Table 4 is not comprehensible.
4. On pages 51-52 (Act 116 of 1963 and Act 40 of 1956) the functions of both the State Planning Division (SPD) and the Drainage Division, Michigan Department of Agriculture have been altered as a result of executive reorganization. This portion of the report should be checked against the appropriate executive reorganization order.
5. On page 55, the organizational breakdown of the Water Resources Commission and its Bureau of Water Management should be checked for accuracy and completeness.

6. On page 57-58, the State Health Department retains its review function for both water and sewer requirements in the subdivision review process, and it retains its membership on the Water Resource Commission.
7. On page 63, the Governor's Advisory Council for Environmental Quality has been reorganized by Executive Order in 1973. This section should be updated to reflect the reorganization and realignment of duties which has taken place since the Draft report was prepared.
8. Tables 8, 9 and 10 (pages 85, 86 and 87) summarize a vast quantity of information for the reader. However, the text which assists the reader in understanding the objective and purpose of these, tables as well as their content needs to be clarified.
9. On page 89, it is my understanding that no existing capability exists at the Monroe plant for incineration of sewage sludge. Does your analysis assume that this capability will be added to the existing facility?
10. On page 115, it is important to recognize that the county is not the only local management institution which could be included under this section.
11. On pages 116-121, the example of the evaluation parameters appears to need further clarification. In its present form, the example with the associated numerical examples appears quite arbitrary. While it demonstrates the importance of establishing a systematic method for evaluating alternative institutional arrangements, the example (in its present form) is difficult to follow. More effort should be placed upon clarifying the basis for the evaluation example, as well as the process utilized to carry out the evaluation.
12. On page 135, the statement which identifies the Water Resources Commission as a type II agency is not completely accurate. The Commission is a Type II agency for administrative purposes--ie budget, personnel matters; however, it retains the quasi-judicial functions of a Type I agency in that it can issue orders and authorize certain activities. In essence, under the reorganization as implemented, the Water Resources Commission is a hybrid agency possessing traits of both a Type I and a Type II activity.
13. On page 141, the third paragraph appears to have one or more sentences missing.
14. On page 212, the Section on Financing in the State of Michigan should be revised to include the roles played by both the Department of Treasury and the office of the Attorney General in the actual sales of bonds. Furthermore, the statement about the WRC being the only group retaining its financing related activities is not a true statement--ie the Department of Treasury and the Attorney General's office.
15. On page 215, the statement regarding "full faith and credit or levied tax is necessary..." is inaccurate. Actually full faith and credit or levied tax is not required.....

16. On page 221, the eligibility considerations associated with Act 185 of 1957, the statement is not accurate. It should be checked and revised to conform with the legislation as it now stands.
17. On page 5 of Enclosure I, the system description should be modified to provide for supplemental pumping of water in drought years from the Great Lakes (Lake Huron) so that all farmers who have come to depend upon water for irrigation purposes will be satisfied.

I hope these comments will be useful as the work of identifying appropriate institutional arrangements for wastewater collection/treatment for South-eastern Michigan continue.

Very truly yours,



RAYMOND J. SMIT, P.E.
State Representative

RJS:w

CC: Dr. Jonathan Bulkley
University of Michigan

SOUTHEAST MICHIGAN
COUNCIL OF GOVERNMENTS

February 5, 1974

Colonel James E. Hayes
Department of the Army
Detroit District Corps of Engineers
P. O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hayes:

Please find attached a set of comments on the U. S. Army Corps of Engineers' Southeastern Michigan Wastewater Management Survey Scope Study. The invitation for SEMCOG representation on your coordinating committee is appreciated. SEMCOG goals clearly establish as a serious concern wastewater management. It constitutes an integral component to any comprehensive process and program. The hope here will be that future endeavors involving areas of joint concern will continue to witness the same desire for cooperation and participation that have characterized the conduct of your survey scope study.

Further appreciation is extended to the staff of your agency for their gracious offer of time to discuss with our staff, and several of our committees, the developments of your Survey Scope Study. Advances in providing a quality water environment for this region should continue to occur when agencies seriously solicit input from others.

The survey scope material has been examined in considerable detail. Comments will be directed toward the Institutional Arrangements Appendix and the Survey Scope Study summary document. This project seemed to be primarily a research effort. As such, no comments will be offered with respect to different conceptual approaches. The review concentrates on accuracy and questions which must be addressed in future studies. The Corps report will be valuable to this agency as it binds together in one bundle a wealth of research information. It provides a helpful frame of reference for considering alternative methods of wastewater management.

Thank you.

Very truly yours,

Nelson Fabian
Nelson Fabian

Coordinating Committee Member

NF.jc
Enc.

A-21

Comment on Survey Scope Study

With respect to the Institutional Arrangements Appendix, several general comments seem appropriate. In the discussions concerning the responsibilities of various state agencies, the material provides a picture of the impact which appears to be the consequence of a first reorganization order. The text didn't seem to take into account a subsequent gubernatorial order which modified substantially the earlier one.

The criteria which were selected to perform the institutional evaluations seemed to represent a good start, but might have been developed even further. Table 14 on page 119 seemed somewhat hard to understand in light of the preceding section's explanation of evaluation criteria. In subsequent institutional evaluations where factors such as flexibility were addressed, precisely how different institutional arrangements were evaluated, again seemed somewhat difficult to follow. On the basis of what was offered in the appendix, it might be surmised that the evaluations were based primarily on value judgments. A straightforward objective analysis did not seem to be present. (For example, the political realities of different Institutional Arrangements were mentioned in discussions, but never developed as a criteria.)

The Institutional Arrangements Appendix seemed to lean toward favoring a regional approach insofar as implementing the alternative plans were concerned. However, the appendix didn't really seem to identify existing institutional problems in this context, or how existing institutions might be arranged into the desired management agency. Comments offered on legislation pointed out both advantages and disadvantages which existed in present laws as they related to the implementation of the Corps proposals. Existing institutions, however, do not always perform to the potential of a given piece of legislation. Political considerations often place constraints on operations. The Institutional Arrangements Appendix will certainly be of significant value in a technical sense. Beyond that, its value seems somewhat tempered as it doesn't appear to go far enough into existing and potential Institutional Arrangements that could be assessed, in accordance with how they function in response to existing and foreseeable situations.

This appendix did assemble a very interesting and informative assessment of current and projected trends in its discussion of an increasing need for regionalization. Citing the experience of New York, as well as documenting the needs in the TOPS Task Force Report, the text lent feeling to a growing perception that problems of this nature which transcend the boundaries of any one unit of government must be viewed from the vantage point of a regional perspective and probably should be dealt with at that level also.

The following specific comments are offered on the Institutional Arrangements Appendix.

On page 17, Table 1 appears not to match the narrative under Section 3A and study area/population.

On page 32, little attention is paid to the programs of the Economic Development Administration. This appears to be out of place with the general spirit of this section, which seeks to embrace virtually any federal program which has anything to do with water quality management. EDA does offer grants and loans for sewage projects.

On page 34, and within the chart discussing management on a national scale, reference is made to SEMCOG administering HUD grants. The comment is made "... while on a regional SEM level, SEMCOG administers HUD grants." SEMCOG does not administer any grants. It receives a HUD grant to conduct planning and it, in turn, reviews projects which seek federal grants. SEMCOG offers comments with respect to whether or not proposed projects conform to appropriate regional plans. Those comments in turn represent advice for the federal funding agency to take into consideration when they are contemplating awarding a grant.

The section regarding management in the State entails descriptions of several of the House and Senate Committees which appear to be somewhat inaccurate. On page 48 a Senate Committee on Appropriations and Consumer Affairs is listed. That title, I believe, should read "Senate Committee on Appropriations". Also listed is a Senate Committee on Agriculture. The correct title for that Committee, I think, is the "Senate Committee on Agriculture and Consumer Affairs". On page 49, I do not believe there is a Senate Committee on Health, Social Services and Retirement, as listed. Rather, I think it is called the "Senate Committee on Health and Social Services". Finally, the chart might also include the Senate Committee on Conservation, Environment, and Tourism. No such committee is listed within the Senate in the Appendix.

Regarding House Committees, two additional committees might be listed. They are the House Committee on Conservation and Recreation, and the House Committee on Marine Affairs. Both are involved in legislative activities relevant to the subject of this study.

Beginning on page 52, and continuing through page 54, there is a discussion on the responsibilities of the Department of Agriculture. The references to what the Governor's reorganization plan entails seems to describe more what his first reorganization order prescribed rather than his second. The original reorganization order dealt with transfer of the drain code function to the Department of Natural Resources. If my understanding of the second reorganization order is correct, it restored the drain code

function in the Department of Agriculture and transferred to DNR only those responsibilities which dealt with the coordination of watershed development.

On page 59, a summary is offered on the functions of the State Department of Public Health prior to reorganization. A listing in this fashion seems out of place. A more correct listing might be achieved were it located under the DNR.

On page 59 reference is made to a Bureau of Programs and Budget. This organization seems to be in a constant state of flux, but our latest information has as the title for the Bureau - "The Bureau of the Budget". This now seems to be located within the Department of Management and Budget. Furthermore, I don't think there is an Office of Planning Coordination, as indicated on page 59. The State planning function is conducted out of either the Office of Intergovernmental Relations or the Department of Natural Resources.

No mention is made of the fact (pages 61 and 62), that the Governor's Special Commission on Local Government and the Governor's Special Commission on Land Use have completed their assignments and have assembled their final reports.

On page 68, and in the discussion about the Detroit Metro Water Department, comment is made that the Water Department treats wastewater from some 67 southeastern communities by contract. Our information indicates the correct figure to be 79. This should probably be looked into.

On page 115, again reference is made to the Governor's reorganization order. All of the wastewater related responsibilities of the Department of Agriculture have not, we understand, been transferred to DNR. This is only true for the Health Department.

A discussion on evaluation parameters and an evaluation of selected alternatives is presented through pages 116-121. On pages 116 and 117, a set of initial assumptions are made. The explanations of both the parameters and assumptions are written in a way which does not appear to clearly convey concepts and capabilities. This point is raised because this section is so crucial to the appendix. For example, something is mentioned regarding Act 185's prohibition on contracting outside the appropriate jurisdiction. Similarly, mention is made of Drain Commissions having a problem constructing sewage treatment plants. Both comments seem somewhat misleading.

The evaluation which begins on page 118, uses only 0, 5 and 10 to rate different evaluation parameters. The rating system again appears to be based on value judgments. Since this section is so critical to the report, a

more detailed explanatory text, along with additional examples, might be offered on how this system works. Additional evaluation criteria might also be considered, such as suggested on page 1 of these comments.

On page 117 reference is made to Table 1. Shouldn't this be Table 16?

On page 130 reference is made to metropolitan councils. Unlike the discussions pertinent to other institutions, this particular discussion mentions nothing about the capabilities, or the potential of the Metropolitan Council of Governments. Also, no comment is made concerning a regional planning function in the Council of Governments. More might be said on this subject.

On page 140, within the list developed concerning Institutional Arrangements for regional government, a very important remark is made under Item 5. It stresses the importance of regional viewpoints and perspectives and the ability to see a problem not within the confines of the politics, environment, or economics of any one local unit of government, but rather, within its larger perspective. This point might be amplified somewhat to further bring out what it attempts to say.

On page 142, under D of the section "Considerations for Comprehensive Wastewater Management", the comment is made that effective devices are lacking which would assure that plans for activities of different public authorities and municipalities are not competing or conflicting. The A-95 review and comment function discharged by SEMCOG was designed to address just this problem. Though more can be done to make this function more effective, at least it does represent a device, and, as such, should probably be recognized.

On page 145, in reference to the State Housing Development Act, there seems to be an incorrect assertion made about the State's ability to construct housing for low to moderate income persons, as a result of programs which have displaced homes, (such as with the clearing of slums and blighted areas). Housing is constructed by the Michigan State Housing Development Authority throughout the State and major criticism of it seems to be that it does not provide enough housing within the central urban areas. Also, its activities appear to have little to do with whether or not someone's home has been cleared.

On page 212 mention is made of different State institutions. Again, the Governor's reorganization order seems to make this description somewhat incorrect.

On page 229 (in summary of the representative plans), mention is made that the incineration of sludge and subsequent disposal by landfill of the ash, appeared to be the most practical means for sludge disposal. Furthermore, the comment is made that this process appeared to outweigh the disadvantages of increased energy demands and air emissions of other alternatives. In light of the energy crisis, it would appear helpful if the authors could share the criteria that were used to base this comment on. (Within the operation of sewage treatment facilities, methane gas regeneration appears to be an increasingly popular suggestion.) Otherwise, the values of the authors might be considered to play a prominent role with suggesting that this is the optimal way for disposing of the sludge.

Throughout the discussion of representative plans, a salient point made is that small communities outside of the regional service area should continue to operate their own wastewater systems until they can be connected to a regional system. One of the disappointments of this appendix was that it failed to address issues involved in the extension of sewers outward and how the extension of sewers directly impacted on not only the institutions of the communities involved, but also the economic well being of all those served. Additionally, nothing was developed which would indicate when the "right" time was at hand for a connection into a larger municipal sewer system.

In sum, with regard to this report, it should be mentioned that it will serve as a valuable resource document.

With regard to the Survey Scope Study Summary report, the following general comments seem appropriate.

As the report states on page 91, common to each representative plan is the use of three existing wastewater treatment plants. These would include the ones in Detroit, Wyandotte and Monroe. In addition to these three major plants the treatment facilities in Port Huron would be converted to physical chemical treatment and a new plant would appear at the mouth of the Huron River. The use of these five wastewater treatment facilities, in their location and time, conform to what regional sewer plans adopted by this agency indicate. In other words, regional plans have recognized the importance of these facilities and portray their existence at least through 1990, as that is the date for which long range SEMCOG planning aims for. Also, such a basic framework underlies a philosophy of regionalization, which among other things, benefits the regional community by achieving economies of scale.

As indicated earlier, the report does not go into detail pertaining to the point at which regionalization becomes subjected to diminishing returns. Such an analysis may have impacted cost estimates developed for the various alternatives. Also, whether or not inland communities should phase out their wastewater treatment facilities in order to connect to the larger municipal system might have been examined in more depth. The economics of such a connection involves many issues and it hardly seems sufficient in a comprehensive plan to dismiss the issue with a terse "growth might warrant the extension of regional interceptors". Ideas which might warrant exploration include the concept of a limited access pipe, whereby an outlying community can connect to a large sewer system without experiencing urban sprawl in between.

Finally, and again in the way of a general comment, the summary report proved quite informative in highlighting:

- 1) what it means to use a land disposal system;
- 2) What it will cost this region if it is serious about meeting the PL 92-500 water quality goals;
- 3) What the differences between WRC's Phase II and the Corps alternatives are; and
- 4) The importance of timing to the implementation of these plans, on schedule, with the no discharge of pollutants goal.

Regarding specifics of the report, the following comments seem appropriate:

On page 14, the assumption is that as this area continues to grow, (if indeed it does continue to grow), suburbanization will continue to occur while the filling in of vacant areas in existing urban locales will not take place. This, in essence, suggests the continuation of a leapfrog sprawl type of development. There seems to be increasing numbers of people who believe that this phenomena will soon begin to slow down as federal funds which help finance the development are withdrawn.

On page 15 in reference to future employment levels, wording appears perhaps somewhat overly optimistic. It should be mentioned that the special TOPS Task Force Report identified employment as the major and most serious problem for the tricounty area.

On page 18 the authors maintain that considerable population and economic growth are expected in such cities as Warren and Sterling Heights,

as well as Dearborn, Livonia, Westland, Monroe City and Port Huron. Our data indicates that several of these cities nearly attained a built-up population and future growth will be at a much lower rate.

Page 20 includes the comment that 87% of the population in the nine-county Corps service area obtain their water from central distribution systems. SEMCOG figures for the seven-county region indicate that 90% of the people obtain their water from central distribution systems. The comparison is interesting.

On page 28, the discussion of the River Rouge Basin, a statement about the water quality of the river appears to be incongruous with the WRC Phase II report. The Corps authors maintain that dissolved oxygen levels are relatively good throughout the basin. However, in the Water Resources Commission's Phase II Southeastern Michigan Water Quality Management Report, the point is made that DO levels are low at a majority of the stations in the basin, while BOD levels throughout the basin suggest a very large organic flow.

On pages 33 through 35, a detailed listing of all existing wastewater treatment facilities is provided. A few errors seem to exist within this list. Again, our data indicates that there no longer exists treatment facilities as such in Utica and Sterling Heights.

On pages 41 and 42, the claim is made that the Detroit River provides large quantities of high quality water for water use in southeast Michigan. This seems to contradict the general spirit and description associated with the discussion on page 28 covering the Detroit River. There the statement is made that the quality of the Detroit River is satisfactory and that during periods of rainfall in excess of approximately 1/2 inch, the combined sewer outfalls overflow and discharge contaminated stormwater and raw sewage which undoubtedly exert some kind of impact.

The second paragraph on page 49 deals with the DMWD policy of providing water. The assertion is made that the people of this region agree and support DMWD plans. Since most of this region's population doesn't even know what DMWD plans are, it might be more appropriate to say that no notable public opposition to DMWD supplying water is known to exist. Also, it might be mentioned that political opposition to DMWD water plans in St. Clair and Monroe counties has occurred.

On page 40 reference is made to various goals and objectives promulgated by state, regional and local agencies. Included in this list

is a goal to eliminate the discharge of wastewater to inland water systems in Michigan. Can the source be footnoted?

On page 63 the fifth paragraph talks about deep tunnels constructed in hard rock. Has the potential for using the hydraulic gravity flow in these tunnels for the production of energy ever been looked at?

On page 120 a very important conclusion is made. That concerns the fact that even 100% elimination of municipal and industrial waste would not be adequate in significantly improving conditions in Lake Erie. The effort, rather, must involve other watersheds in the Lake Erie Basin. While full cooperation certainly seems to represent the best arrangement, even that, although it is an impressive cleanup program, may not be enough to rehabilitate Lake Erie. According to the Lake Erie Report and Barry Commoner's "This Closing Circle", oxygen demanding deposits have been building up in Lake Erie's bottom sediments for a long period of time. However, due to a peculiar iron bond, these organic materials have not exerted the huge oxygen demand for which they are capable of some day. Therefore, should this ever occur, no matter what kind of cooperation exists around the basin, Lake Erie would be in serious trouble.

On page 125, and in the discussion of the land irrigation alternatives, additional mention might be made of a social value which simply does not like the idea of spray irrigation.

All in all, the Corps' study is recognized as being a compilation of a valuable set of information which can be used by many. In this respect it represents a very worthy addition to the resource material to be utilized by people within this region. The institutional analysis as well as the discussion of the advantages and disadvantages associated with implementing various wastewater management technologies seem to have explored many previously unresearched areas. It should save a great deal of time for people who have the responsibility for tracing out the implications involved in the consideration of different ideas suggested for wastewater management planning.

I hope this set of comments proves useful.



MACOMB COUNTY PLANNING COMMISSION

115 S. GROESBECK HIGHWAY, MOUNT CLEMENS, MICHIGAN 48043 PHONE: (313) 468-0856

Glen H. Peters
Chairman

March 12, 1974

Bernard E. Giampetroni
Director

Stephen Okros
Vice Chairman

MEMORANDUM

Richard C. Roose
Assistant Director

Willard D. Back
Secretary

Conley O. Bacon

TO: Macomb County Planning Commission Members

Sherwood J. Bennett

FROM: Macomb County Planning Commission Staff
Macomb County Drain Commission Staff

Ray W. Brannenburgh

Joseph S. Raich

Robert A. VerKuijen

Edwin E. Whedon

RE: Southeastern Michigan Wastewater Management
Survey Scope Study - U.S. Army Corps of
Engineers - Position Statement

Date Received: February 19, 1974

Purpose: This extensive study of Southeastern Michigan and the various alternatives which it might select for the proper management of municipal and industrial wastewater plus urban storm runoff was commissioned by Congress in 1970 due to increasing national, state and local concern about water quality in the Great Lakes and in the nation's rivers. The Study was modified in 1972-73 to meet the standards of the new Water Pollution Control Act, Public Law 92-500, which was passed midway through the process.

Review History: Staff from the Macomb County Planning Commission first attended public hearings on this Study in July 1972. These were followed by volumes of preliminary reports and more public hearings in December 1972 and final draft reports in December 1973 and February 1974. Public hearings were held on the final draft alternatives in December 1973. On March 5, 1974, representatives of the Detroit District Office, U.S. Army Corps of Engineers, met with staff from the Planning Commission, Drain Commission, Environmental Health Department and the Soil Conservation District representative to discuss questions raised in the reports, as they might affect Macomb County.

S.E. Michigan
Wastewater Management
Survey Scope Study

March 12, 1974

Staff
Comments:

1. We agree with the basic concept of environmental protection, and the upgrading of water quality, provided that feasibility can be shown both technologically and economically. Toward this goal, the U.S. Army Corps of Engineers have produced a thorough examination of the problems and developed a technologically feasible wastewater management system, regardless of cost.
2. It appears that the costs of the three alternative plans may be excessive for both the region and the nation at this time.
3. Since the Pollution Control Act is still being interpreted some of the recommendations in the Study may go beyond the intent of the Act.
4. The impact of sediment control through the implementation of efforts to upgrade stream water quality in Michigan needs to be assessed, before beginning such a massive program of wastewater treatment, particularly the storage and treatment of storm runoff water on a scale as massive as recommended in the three alternative plans.
5. Much more study on the feasibility and advantages of land irrigation with treated wastewater needs to be undertaken before large scale operations are begun. Pilot programs of irrigation would be invaluable in determining feasibility, both economically and environmentally.
6. Apparently, the amount of storm runoff to be treated under the alternative plans is based on a 25 year flood situation. A serious question can be raised about the cost-benefit ratio of a system designed to this scale.
7. Implementation of a reservoir system in Macomb County to treat storm water runoff as envisioned in this study would interrupt important and necessary vehicular transportation arteries in the County.

S.E. Michigan
Wastewater Management
Survey Scope Study

March 12, 1974

Staff Recommendations:

1. That the U.S. Army Corps of Engineers, Detroit District, can be commended for their effort in assisting Southeastern Michigan with solutions to wastewater treatment.
2. That more study is needed before any massive program for storm water treatment be undertaken.
3. That further research and development is needed before land irrigation as a method of wastewater treatment is undertaken in this region.
4. That efforts should be made to maximize the quality of storm runoff through an extensive program of pilot studies.

/mal

Greater Port Huron-Marysville Chamber of Commerce



January 7, 1973

District Engineer
U. S. Army Engineer District, Detroit
Attn: Urban & Special Studies Section
P.O. Box 1027
Detroit, MI 48231

Gentlemen:

I have been most impressed with both your verbal and written presentation on Alternatives for Managing Wastewater in Southeastern Michigan. I did not have the feeling that you were attempting to push something on us come "hell or high water". I believe that it was clearly pointed out that your proposals were based on the best available and accepted technologies for dealing with wastewater in the public sector.

I do feel, however, that before a legislative decision can be made we must have an opportunity to view methods of dealing with wastewater that both originate from and are administered by the private sector. Individually owned and operated septic systems have been; and in some cases, will remain an adequate method of dealing with wastewater. Certainly modern technology can improve the property owner ability to deal with his own problem!

I would hope that in gathering information from many sources we come up with the best solution rather than the solution proposed by the strongest source as is so often the case.

Your contribution in seeking information, though often maligned, is appreciated by this organization as a giant effort worthy of thoughtful consideration by our regional decision makers. And as your representatives have pointed out, your proposed alternatives may not be the ultimate solution.

Sincerely,

Miles M. Benedict
Miles M. Benedict
Executive Director

MMB/drs

TOWNSHIP OF RAISINVILLE

December 28, 1973

Department of the Army
Detroit District, Corps of Engineers
P. O. Box 1027
Detroit, Michigan 48231

Gentlemen:

The Raisinville Township Board attended the final public hearing held December 13, 1973 at Cantrick Junior High School in Monroe, Michigan. The meeting being on "Alternatives for Managing Waste Water in Southeastern Michigan".

We, the Board are opposed to methods proposed at this meeting for the following reasons.

The thousands of acres of prime farm land being used for irrigation of wastewater and sludge from Metropolitan areas.

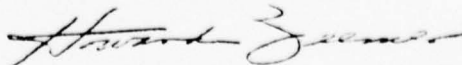
The excessive amounts could not be absorbed by the types of soils that exist, only to find it to run off and cause pollution in the streams and river.

With all the proposed lagoons and tunnels this would be a health hazard along with unbearable odors to the surrounding community.

In summarizing the report the vital farm land would consist of landfills, wastewater and sludge from the Metropolitan areas at a cost to the taxpayers from four to ten billion dollars.

These are but a few reasons we oppose the proposed plans in the report.

Yours truly,



Raisinville Township Board
Howard Zeemer, Clerk



League of Women Voters of the Detroit Metropolitan Area

METROPOLITAN AREA
LEAGUES

January 24, 1974

ALLEN PARK

BIRMINGHAM -
BLOOMFIELD

DEARBORN -
DEARBORN HEIGHTS

DETROIT

DOWNRIVER
WAYNE COUNTY

GROSSE POINTE

LIVONIA

MOUNT CLEMENS -
CLINTON AREA

NORTHVILLE -
PLYMOUTH AREA

ROCHESTER AREA

ROYAL OAK

SOUTHFIELD -
LATHRUP VILLAGE

TROY

WARREN

WEST BLOOMFIELD -
FARMINGTON AREA

WEST OAKLAND COUNTY

District Engineer
U. S. Army Engineer District, Detroit
ATTN: Urban & Special Studies Section
P.O. Box 1027
Detroit, Michigan 48231

The following is a statement to be included in the hearing record on the Southeastern Michigan Wastewater Management Survey Scope Study and is submitted by:

The River Rouge Basin Committee of the League of Women Voters of Metropolitan Detroit. The Committee is made up of 8 local leagues and represents the 16 leagues in Metropolitan Detroit.

Since the 467-square mile Rouge River basin is one of the 7 major river basins included in the Corps' study area we are vitally interested in the outcome of this study. We are concerned about the effects on all of southeastern Michigan, and in particular, the effects on the Rouge basin.

We ask that the evaluation of the wastewater management proposals give careful consideration to the following:

1. A FULL COST-BENEFIT ANALYSIS

The tremendous capital cost of \$4 billion (1973 dollars) must be justified by benefits to the citizens of southeastern Michigan and the lower Great Lakes. Will the clean water benefits equal \$4 billion?

We understand that the stated annual cost of \$370-\$390 million was based on a 5½% interest rate. The cost of money is already considerably higher, and it should be understood that the annual cost will be escalated accordingly.

We are unable to determine from the study whether or not the representative plans' cost figures include the cost of the interim plan. Since it appears that much of the interim plan would be incorporated in the 3 representative plans, would not the cost of implementing one of these plans be increased by the cost of the interim plan?



League of Women Voters of the Detroit Metropolitan Area

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District Engineer

-2

2. EFFECT ON THE LAND OF DRAINING OFF FLOOD WATER FROM 5,372 SQUARE MILE AREA

The ecology of the land normally includes the receiving and absorbing of precipitation. If storm water, or a significant part of it, is drained off rather than being allowed to soak into the flood plains and wet lands, what will be the effect on crops, forest lands, park lands, ground water table, and the rivers themselves? Will great quantities of additional water have to be pumped back onto the land from the lakes (using more energy), when rain water could have been held there at minimal cost and use of energy?

We feel that additional exploration should be made of more efficient, less costly, alternative methods of handling "flood" waters, such as vacating flood plains, prohibiting building in wet lands, disconnection of roof gutters from sewers, use of permeable pavements in parking lots, small area catch basins, small on-site treatment plants. It is hoped that any plan adopted will be sufficiently flexible to incorporate new technology as it appears.

3. EFFECTS OF DEEP TUNNEL CONSTRUCTION ON THE LAND

Will the testing and construction themselves damage the land where tunneling takes place? What effect will the bedrock tunneling have on the ground water? Will the water be contaminated by leakage from the tunnels? Will aquifers be depleted, lowering well levels?

What environmental safeguards will be used in connection with the construction -- lined tunnels, minimum construction damage, reclamation of disturbed sites, etc.?

Have the cost of such safeguards been included in the cost estimates?

We recognize that the Army Corps made many efforts to bring their hearings to public attention. We were concerned, however, that the presentation at the hearing did not fully present the total costs involved, since figures were almost completely in annual terms. We were also interested to note that no one, from seeing the slide presentation and reading the small brochure, would realize that massive deep tunnels were required to carry out the Corps' plans. We are further



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WEST OAKLAND COUNTY

District Engineer

-3

concerned that at least several libraries listed as depositories of the "red books" claimed they did not have them available in mid-January.

The League of Women Voters supports the concepts of improvement of water quality and regional planning. But we fear that the proposed plans, while incorporating these concepts, will result in major damage to the land and unnecessary costs in dollars and energy. We ask that all remedies be carefully considered in terms of the overall ultimate effects on the environment. Environmental impact statements should include the impact on the land as well as the water. This does not seem to have been adequately done in the study reports.

Surely we voice the concern of everyone when we ask that we receive full value for the billions of dollars to be expended.

League of Women Voters of the
Detroit Metropolitan Area
River Rouge Basin Committee

Winnie Goeboro
Winnie Goeboro, Chairman

Copies to:

Mr. A. Gene Gazlay

Mr. Mark Mason

The Detroit Free Press

The Detroit News

For inclusion in public hearing record on S. E. Mich. Wastewater Management Study

Mrs. Wm. Morse
25751 Stonycroft
Southfield, Mich.
Jan. 25, 1974

Colonel Hays
Corps of Engineers, District Engineer
Detroit District, P.O. box 1027
Detroit, Michigan

Dear Sir:

Thankyou for notifying me on the extension of time to February 1, 1974 for comments on the study.

Our main concern about the public involvement is that it be more than a formality. That it be realistic and meaningful.

No mention of the vast deep tunnel system incorporated in all three representative plans was made in the brochure you sent out to interested persons. In this brochure you list the costs on an annual basis without stating that it is based on a fifty year plan.

Most persons who saw the slide show presentation were not at all aware that a deep tunnel system was part of your plan.

Why was there no co-ordinating committee meeting in which tunnels were discussed in any detail?

Only in the eight red covered books does one get any real information and they were distributed shortly before the public hearing and even now are difficult to obtain as some of the libraries have not processed them and tell people asking for them that they do not have them.

Why weren't less radical and less expensive alternatives developed for comparison? Land treatment is effective especially for storm water, why not at least develop plans for using land for runoff instead of piping it right into rivers as is presently done? It may well be cheaper to retain more land for open space in communities and require each new development to manage its own drainage.

The League does not have a stand on land treatment but if its use helps preserve natural resources and keep nutrients and pollutants out of the water ways, we do have a national stand on that. It has long been our concern that water quality be improved, we would like to be sure that the final plan accom-

plishes that end.

The Detroit water Board wants to supply the entire area with their water supply extending their water mains ever further.

The reginal collection of wastes from the entire area, besides spurring development will insure discarding the areas effluent into the same bodies of water used for the water supply. Should failure of the treatment plants occur for any reason, this appears to be a very poor setup. We had hoped for something more progressive.

Does conveying wastes great distances make it more septic and difficult to treat? Would boron~~not~~ need to be a limiting factor in land treatment if industrial and residential outlying communities waste were ~~not~~ mixed in a reginal interceptor?

What are the energy requirements of building reginal sewers and water mains as opposed to local systems? Some local plants use methane gas from their wastes as part of their energy source. What are the energy requirements for transporting the wastes great distances--pumping stations, etc.?

It is my understanding that the ^{storm water} collection system in your plan is based upon a ten year storm. What happens when we have a 50 or 100 year storm, which are occuring ever more frequently due in part at least to created conditions? Will such a flood flush out the wastewater directly into the Detroit River, Lake Erie or Lake St. Clair?

We appreciate your efforts in doing this study and request that you carefully consider our questions and comments.

Sincerely,

Verona Morse
Verona Morse



EAST MICHIGAN

Environmental Action Council

TARGET: EARTH

912 So. Woodward Avenue • Birmingham, MI 48011

January 29, 1974

Colonel James E. Hayes
Corps of Engineers, District Engineer
Detroit District
P.O. Box 1027
Detroit, Michigan 48231

RE: Statement from the East Michigan Environmental Action Council for inclusion in the public hearing record, December 12, 1973, of the Southeast Michigan Waste Water Management Study.

East Michigan Environmental Action Council opposes any implementation, or further consideration by the State of Michigan of the Southeast Michigan Waste Water Management Study, prepared by Detroit District, United States Army Corps of Engineers, until conclusive evidence is included in the study to demonstrate that completion of a deep tunnel system throughout the area under study will not alter the water table in that, or any adjacent area.

32 Brookline Ave.
Dearborn, Michigan
48120

January 28, 1974

Colonel James E. Hays
Detroit District, Corps of Engineers
P. O. Box 1027
Detroit, Michigan 48231

Dear Colonel Hays:

I am writing on behalf of the Rouge Basin Coalition. A coalition of citizens organizations in the Rouge River Basin concerned about the preservation and protection of the Rouge River and its flood plain areas. The following comments are in response to your "Alternatives for Managing Wastewater in Southeastern Michigan." Mr. Gregory spoke to the representatives of our various organizations on November 12, 1973 regarding these wastewater management alternatives. Although we found him to be altogether pleasant and informative, there remain several points they we feel we must call to your attention. The points we raise are in response to his comments and those made in your brochure "The Search for Clean Water."

The problem of deep tunnels for underground retention and transport of combined sanitary and storm overflows is of continual concern to our member organizations. Mr. Gregory reluctantly commented on a deep tunnel system paralleling the Rouge River. We would like to know if a tunnel is proposed as an integral part of the Southeastern Michigan Wastewater Treatment Proposal and, if so, what assessments have been made of the adverse impacts on the flood plain areas. For example, what types of activity would the river area be expected to tolerate during preliminary core sampling operations, access tunnel construction, and the building of maintenance routes.

Is it possible within the context of your report to recommend that all new developments within the study area be required to contain separate storm and sanitary collection systems. Such a proposal would reduce the volume of combined run-off reaching a treatment facility thereby reducing problems associated with dilution and water flux changes associated with storms. This recommendation would be directed to local bodies of government who would respond with appropriate zoning changes.

What do you anticipate as the time schedule for any or all of your proposals.

Sincerely,

Roger Saillant

Roger Saillant
Rouge Basin Coalition

ATTACHMENT B

STATEMENTS PRESENTED AT 11, 12 & 13 DECEMBER 1973 PUBLIC MEETINGS

<u>Statement By</u>	<u>Page</u>
Alvin DeGrow - Michigan State Senator	B-1
Joseph Price - Washtenaw County	B-7
Thomas E. Bletcher - Washtenaw County	B-10
Monroe County Board of Commissioners	B-14
Charles Blessing - City of Detroit	B-15
Monroe City Planning Commission	B-16
Gerald Hummel - City Engineer, Port Huron	B-17
Bruno Zane, P.E. - Dundee Cement Company	B-25
William J. Pollard - Citizens Opposed to Super Sewer	B-29
Jeanne Micka - Pointe Mouillee Waterfowlers Assn.	B-32
Keith Siebarth - Citizens Pollution Control Assn.	B-34
Lawrence Leibold - Lake Erie Advisory Committee	B-37
Howard McNee- Organic Farmers and Gardeners of Michigan	B-39
Verona Morse - League of Women Voters	B-41
Mrs. John Donaldson - Birmingham-Bloomfield League of Women Voters	B-44
John R. Iacoangeli	B-46

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Statement made at the Public Hearing held in Port Huron, MI on 12 December 1973 by:

Honorable Alvin DeGrow
Michigan State Senator
28th District

In December 1972, just one year ago, I learned that a Public Meeting was scheduled to be held in Bad Axe by the Detroit Office of the U. S. Army Corps of Engineers to discuss the Proposal that would put treated wastewater on farmland in the Thumb Area.

I learned about the meeting by chance from an article printed in the Detroit Free Press.

Although I reside in that area which is part of the seventy per cent of Huron County that the Engineers designated for their project, I was not notified of the meeting. This is understandable because I am sure the Corps of Engineers had never heard of the State Senator from the 28th District. However, in the months that followed, we have become better acquainted.

On February 9, 1973, I arranged for a meeting of interested citizens and the news media with Colonel Snoke and four members of his staff in the Detroit Office of the Corps. Months passed and there was minimal contact after the meeting.

On October 10, I invited Colonel Hays and his staff to lunch with me in Detroit to discuss the project. For various reasons, Major Cabrinha was the only member of the Corps who could attend.

During a two hour luncheon meeting we discussed what had happened to the Plan and what future projections might develop. At every point I was assured that I would be informed of any further developments, and yet I learned of tonight's meeting, not from the Corps, but from the State Chamber of Commerce who knows of my vital interest in the Wastewater Treatment Plans.

After the initial notice was received from the Chamber of Commerce, my Assistant called Colonel Hays on November 28, for more information in regard to the scheduled hearings. Colonel Hays expressed surprise that I had not been notified as brochures and meeting schedules were being mailed to all Legislators representing areas involved in the new Plan.

Yesterday afternoon, December 11, I contacted every Senator and Representative in the Monroe-Lenawee County area, as well as those from the Thumb Area.

NOT ONE HAD RECEIVED ANY INFORMATION ABOUT THE NEW PLAN, OR THE MEETINGS SCHEDULED FOR THEIR DISTRICTS.

Because of my personal experience in dealing with the Corps, and the experiences of other States with the same type of projects, I charge the Corps of Engineers with categorically, and deliberately, lying to the People of Michigan regarding their intentions in the development of Plans for Wastewater Treatment.

Everything that I have been able to learn about the Corps and its Plans leads me to conclude that they intend to proceed with no regard

for public opinion, and that the Lenawee and St. Clair portions of the proposed project are only a foot in the door.

Once these are established they will be expanded to the original goal. After the Detroit area is resolved the Corps will then turn its attention to the Bay City-Saginaw-Flint area, and then the Grand Rapids area and others.

What about the three Plans that are being presented tonight? Let's take them in inverse order:

PLAN III - The map provided in the brochure was deliberately drawn to small scale to give a minimum amount of information. Good, solid arguments cannot be developed. What can you learn from a one-quarter inch square on a three inch map that covers an area two hundred miles long?

This Plan would utilize the "Emphasize Crops" concept. The proposal would:

- "Maintain private control of land;
- Possibly retain residences;
- Allow for retention of agricultural patterns;
- and flexibility of the irrigation schedule
- and determining of land for treatment."

Plan II - The "Emphasize Application" concept. There will be total control of the land. All residences will be removed from designated land areas. "Total acquisition costs include current market value for property, including homesteads and buildings, family relocation allowances, and administrative, legal and contingency costs."

Let me quote a few items from the December, 1973, issue of the Michigan Farmer. An article by Richard Lehnert, entitled "Back to the Land

With Urban Wastes, The Muskegon Project," states the following:

"Someday, every farm in the nation may have a sewer line running past it. Instead of putting wastes in, however, farmers will take them out and spread or spray them on their land."

The first part of the article goes on to describe something of the project and people interested in its development, the first part concludes:

"The farmers are looking. Any farmer who lives near -- or even fairly far from -- a Metropolitan area may be involved with urban wastes in the future. How will he be involved? Will he be a subscriber who buys sewage? Will he get it free? Or will he be moved off the land? Is this some new kind of urban sprawl, in which the people stay in the City and only their wastes are sent to the suburbs?"

The People in this area are asking, "Why take thousands of acres of good land for this project?"

The article about the Muskegon Project states:

"The area chosen for the Muskegon Project site is no agricultural wonder. It's very sandy, with a clay bottom at variable depths to sixty feet -- a natural water barrier that's too deep to help crop production."

Much of the land was cleared for the Project. In some places, big circles were cut for the irrigation systems, with fringes left in scrub oak. The area was cut over in the 1870's -- with timber moving to Chicago to rebuild that City after the Chicago Fire. Some land was later used for agriculture, but most gradually went back to trees. More than four thousand five hundred acres were cleared for the Project."

A year ago I asked some questions at the meeting in Bad Axe. At subsequent meetings I have asked more questions. I have yet to receive any answers.

If Plan II is implemented people will be compensated for their land and their homes.

But what about the businessman who loses all of his customers?

What if he is on the edge of the Project and loses half of his customers? Who will compensate him? What if he loses fifteen per cent of his customers? How will this be resolved?

What about the schools that have passed bond issues?

If the Government takes over tens of thousands of acres, who will pay off these bonds?

And the people who remain: Who will pay the taxes to operate Township Governments if you take the better part of four or five Townships?

These questions have always been evaded. We want the answers now.

Finally, Plan I - By its own admission, the Corps states that conventional sewage plants with primary, secondary and tertiary treatment will do just as good a job as the Land Treatment Method. Neither will purify water one hundred per cent.

Additionally, it is admitted that conventional plants can be built and operated for less money than the Land Treatment Method. It is also stated that the cost difference is minimal, but here again, I doubt the accuracy of this appraisal.

Continuing from the article previously quoted,

"Costs become a problem. Few cries of protest were heard from the one hundred and ninety-six families moved off the site -- mainly because of the price paid. Those ten thousand six hundred acres of sand and scrub cost the County five million dollars, almost five hundred dollars an acre. This was twice the initial estimate."

And also.

"The collection and transport network comprises about a third of the systems cost."

This means that land accounts for about one half the cost of the Project.

If the estimates are low, (and I don't doubt that they are,) then the economic and social disruption costs of Plan II and III far exceed Plan I.

Taking all of these things into consideration, I simply cannot understand the audacity of the U. S. Army Corps of Engineers to stand before a group of taxpaying citizens and present Plan II and III for Wastewater Management.

Statement made at the Public Hearing held in Ann Arbor, MI on 11 December 1973 by:

Mr. Joseph Price
Director of Public Works
Washtenaw County

I have a short letter I will read into the record, but in the meantime, listening to your discussions here tonight several questions were brought out to my mind that I think should be answered in addition to what I had written previously.

I noted that a great deal of emphasis was placed on Public Law 92-500 as a base for a number of your deliberations and this seems to me to be a rather shaky kind of a basis to do planning. I say this because at the present time the so-called goal of what is the best available technology has yet to be designed and it would seem to me that until some of these definitions come out that you and the rest of us have been waiting on to these many months, we are in kind of tough shape to make the sort of economic comparisons that really ought to be made in a total wastewater management study.

The second question that I find myself faced with and after listening to you is that you make reference in many instances to a regional facility and then separate facilities and nowhere have I been able to find out where you draw the line as to what areas should be included within the regional facility vis-a-vis a separate facility. This, I think, is kind of the guts of the issue that Washtenaw County and particularly the Ann Arbor metropolitan area has been facing for some time.

The third question that continues to plague me is the relationship

of the so-called three Representatives Plans to the so-called Interim Plan, and this, I think, some allusions were made by previous speakers to this question of really where does "Super Sewer" as a number of people have coined this term, to mean this large Huron River interceptor and treatment system, where does this fit with respect to these three regional or these three Representative Plans and I would like to pursue that issue a little further in this letter.

This is addressed and I will leave a copy with your stenographer, Corps of Engineers, regarding the alternatives for managing wastewater in Southeastern Michigan.

We note in your announcement Notice for these Public Meetings a statement that the proposed alternatives, "will be used by the State for selecting it's plan for managing wastewater in Southeastern Michigan". Such a comment leaves the distinct public impression that the Corps was commissioned by the State of Michigan to do this study, which I believe is not the case, and the appearance of this Summary Report at this time only further confuses the wastewater issue for Washtenaw County.

In the first instance, you are assuming the existence of a new Huron River Regional System (Plan II, "Super Sewer") by 1983 calling it an "Interim Plan". I would ask, "Interim to what?" If, in fact, higher levels of treatment for future regional systems discharging directly into the Great Lakes becomes necessary to satisfy the 1983 "best practicable technology" requirements under P.L. 92-500, then the entire question of building an optimum arrangement of transportation and treatment systems has been neglected again. The only future action feasible will be expensive AWT "add-ons" at a future date. What is still needed is a new look which assumes a uniform "best prac-

licable treatment technology requirement" regardless of new plant location and then optimizes the systems of transport and treatment to produce the most cost-effective arrangement of systems to serve the regional area.

The creation of a new Huron River Regional Plant and a massive, connecting system of interceptors appears both institutionally and economically unfeasible. The Water Resources Commission of the State of Michigan recently held a Public Hearing to consider Interim Alternative Plans to fill this gap. Your use of the term "Interim Plan" to describe a possible future system for which the State is now seeking an "Interim Plan" certainly compounds the confusion.

Washtenaw County, responding to an invitation from the State to propose an Interim Alternative Plan to that of Plan II, "Super Sewer", your "Interim Plan", had a study prepared this past summer. From this report the communities of Washtenaw County have agreed upon an Interim Wastewater Management Plan, so-called 83-D, for Washtenaw County. This Plan was the subject of the State Water Resources Commission Hearing previously mentioned.

A copy of this study made for the County and our Plan are provided herewith and, we believe, these should also be given consideration as a viable alternative.

Statement made at the Public Hearing held in Ann Arbor, MI on 11 December 1973 by:

Mr. Thomas E. Bletcher
Deputy Drain Commissioner
Washtenaw County

During the time that I have been in the Washtenaw County Drain office I have had the opportunity to review a great deal of the early survey data in Washtenaw County and I know that the most impressive thing that stands out in that data is that when early surveyors came through here surveying the Northwest Territory, Washtenaw County was largely a swamp interspersed with some high oak ground, the oak openings that many of us have heard about of rare beauty and of great attractiveness for human settlements, and that the remainder of the county that at that time they found extremely swampy and in the intervening years the drain commissioner of Washtenaw County has succeeded in drying out considerably to the point where it would appear from some of the early data we have in our office that the water table in Washtenaw County by process of nature and public works has been lowered by some five to six feet.

The Corps of Engineers now arrives in Ann Arbor to undo a hundred years of good work by land irrigation and returning the water from Wayne County and downstream to Washtenaw County. There are two concepts of dealing with the environment. The first says that -- and I believe the more preferable of the two -- says that the land was here before we were and probably will be after we are gone and that we should attempt to deal with it as it lies. The other concept endorsed, I believe, by the Corps of Engineers, is that the land is that the land is there for us to manipulate as we might choose and to structure our public works and civil engineering structures and so forth

in such a way as to make even areas which are extremely undesirable for whatever purposes man may desire to put them to and often because of our limited understanding of the effect of this kind of a program, we involve ourselves in ecological disasters. Well intended efforts end us up in difficulties we may have much preferred to avoid.

I think the entire Corps of Engineers study here has ignored the concept of treating wastes, whether they be municipal or industrial or stormwater as close to the source as they possibly can. Instead of transporting them at enormous costs, concentrating them in areas where it requires very high technology to treat and dispose of these wastes. I believe that their analysis of land treatment takes on the aspect particularly when you begin to talk about the land uses involved extreme flights of fantasy. I do not believe -- I believe this to be a strawman setup to make the physical and biological treatment alternatives look much better. There are alternative concepts for treatment and one that has been developed within our office of individual home wastewater treatment systems and that is a Miter Corporation term for septic tanks under public ownership which would be constructed and maintained and serviced by a municipal authority of some sort. Now, that has come to be known both within our office and within some of the other offices in the area as the Municipal Money Dipper Program.

We find the stormwater treatment plants of the Corps of Engineers to be grossly inadequate primarily on this basis, that there is not local treatment of stormwater, rather than retaining stormwater at the point or very close to the point at which it falls and recharging the ground water system. We find it being transported vast distances as with the sanitary sewage and industrial waste and treated in large regional plants and discharged

to rather sensitive water resource areas.

Two items, and this comes primarily from my own professional interest as an economist more than my job interest as Deputy Drain Commissioner or my ecological and environmental interest as a citizen, and that is that none of these studies and this one in particular, the Michigan Water Resources Study, the EPA Environmental Impact Statement on that study, has anybody really gotten down to the basic issue of dealing with the economics of rate structures and how this is going to be paid and who is going to pay for it and what impacts are going to be on people.

The other aspect of it which is equally important and has also not been addressed adequately to my knowledge is the issue of political and administrative control systems of this sort. Now, I know from my brief experience in the Drain Office the difficulty that we have in dealing with drainage districts which involve two townships, in drains which involve two counties and in study areas which involve any more than a few or very few municipal authorities, and I think that perhaps more than a civil engineering aspect of this and public works nature of this and perhaps even the economics of rate structures and the social costs and the welfare economics of this whole system that perhaps we have a very serious software problem we have not addressed and that may the best laid plans, whether they be of the Corps of Engineers, the Water Resources Commission, or even of local government. This is the issue of who is to control these and what are the politics of this control in terms of representation, in terms of public accountability, and in terms of good environmental control.

I think we must urge upon the Corps of Engineers and upon the Water Resources Commission and upon the Governor of the State of Michigan to take

a much more local oriented look at the alternatives for wastewater management that this would have to do with small area plants with the use of the home wastewater treatment, individual home wastewater treatment systems, and this would have to do with constructing and requiring runoff retention facilities on urban stormwater drains and storm sewers, that it would have to do with the recycling of industrial waste within industrial facilities and many other things designed not only to protect the environment, but in the long run I believe can be demonstrated to reduce the over-all cost in terms of both social costs and actual accounting costs of treating wastewater. Thank you.

Resolution by Monroe County Board of Commissioners entered into the record at the Public Hearing held in Monroe, Michigan on 13 December 1973. The resolution was signed by:

Mr. Shelby Brooks, Vice Chairman, Mr. Donald D. Doty, Mr. George Elman, Mr. Frank A. DeSloover, Mr. Fred L. Heath, Mr. Delmont L. Chapman, Mr. Howard C. Peterson, Mr. Harold A. Stotz, Mr. Norman D. Shinkle, and Attested to by Warren J. Labeau, Clerk.

WHEREAS, from time to time various proposals have been put forward advocating various sewage farm schemes, and

WHEREAS, several agencies have looked to Monroe County to solve their problems of managing wastewater in Southeastern Michigan, and

WHEREAS, the County of Monroe has previously indicated its opposition to the importation of solid wastes into the County,

NOW, THEREFORE, the Board of Commissioners hereby goes on record objecting to the development of any plan for Monroe County whereby so-called Sewage farms for the disposal of waste water are devised or contemplated. It is directed that a copy of this resolution be sent to the United States Corps of Engineers District Office in Detroit, Department of Natural Resources, Water Resources Commission and to the appropriate State Environmental Agency."

Statement entered into the record of the Public Hearing held in Monroe MI on 13 December 1973 by:

Mr. Charles Blessing
Director - Secretary
City of Detroit

"Our office has recently reviewed "Alternatives for Managing Wastewater in Southeastern Michigan" dated November, 1973. In reviewing the report, our major concern is with the handling of stormwater runoff. The report states that stormwater runoff requires storage prior to treatment. The report further shows that each of the alternative plans provides for 51 reservoirs of various sizes located throughout the region.

In recent weeks our office has reviewed, as a part of the Federal A-95 Review process, two applications by the Detroit Metropolitan Water Department for federal funds to construct stormwater overflow control facilities. As can be seen from our attached responses, our major concerns are: 1) the adverse environmental and aesthetic effects of retention basins, and 2) the possible destruction or preemption of large tracts of land that might otherwise be used for recreational purposes.

Although it appears from your report that the proposed 'reservoirs' may be somewhat different from the DMWD stormwater overflow control facilities, it is our belief that the above stated concerns still apply. It is our hope that in further delineating a stormwater storage system, careful consideration be given to environmental and land use problems and that alternative methods of handling stormwater runoff be given serious consideration and evaluation."

A letter from the Monroe City Planning Commission entered into the record at the Public Hearing held in Monroe, MI on 13 December 1973.

Gentlemen:

As a community Planning Commission, we recognize the immediate need for Wastewater Management in Southeastern Michigan and subsequently concur with those methodologies published in the summary report.

Because this Planning Commission works directly with the Citizens of Monroe, we also realize their desires and needs in relation to long-range resource development. Because of these constraints, we would like to state our disapproval of Representative Plans 2 and 3 as published in Army Corps of Engineers Wastewater Management Bulletin No. 2.

The main premise for disapproving of those plans stems from the idea of land irrigation with municipal sewage. We believe that this method of disposal on such a large scale as proposed could be detrimental to Monroe County as well as other areas in Southeastern Michigan.

We would like to state our approval of Representative Plan No. 1., with the exception of a regional Wastewater Treatment Plant at the mouth of the Huron River. To safeguard the ecological values sustained in this area, we support the plan for wastewater decentralization for the Huron River Basin.

We hope that you will accept our recommendations in regard to this.

Statement made at the Public Hearing held in Port Huron on 12 December 1973
by:

Mr. Gerald Hummel
City Engineer
City of Port Huron

Colonel, Ladies and Gentlemen, in 1970, when the Congress directed the Secretary of the Army to undertake wastewater management programs in five major urban areas in the United States, I am sure that neither Congress, nor the Corps of Engineers, realized the complexity or the impact such a study in itself would have on the various areas under consideration. This directive has reached to all levels of government, federal, state and local, and is now being presented to the general public in the form of a brochure outlining the alternatives and in the form of these public hearings.

The reports and studies being prepared by the Corps of Engineers must be considered in the proper context of wastewater management in the Southeastern Michigan area. As many of you know, the normal sequence of wastewater control is through the Federal Agency known EPA, the State Agency known as Michigan Water Resources Commission, and Local operating agencies, which are cities, villages, authorities, et cetera. The study was assigned to the Corps directly by Congress outside this normal control chain, and, thus, the Corps in preparing the study, was not subjected to all of the concerns of an agency which is responsible not only for programming and planning, but also for construction, implementation, operation and enforcement. Therefore, it should be realized that the Corps of Engineers' study is of the academic type, and they were not limited by the constraints of these other very real factors in an operating wastewater management system.

The brochure, dated November, 1973, is an extremely brief outline which presents the results of many in depth studies. The brochure only scratches the surface. The background material and technical data is contained in approximately twelve detailed technical reports. A thorough examination of these technical reports is necessary for persons in the development of this wastewater management system. They have just become available last week and represent a foot high stack of technical data. Neither I, or my staff, have had the opportunity to completely review all the information. Several of the technical reports themselves take opposing viewpoints, and the recommended representative plans are a result of the balancing of these pro and con viewpoints from the hygienists, the economists, the engineers, the environmentalists, and the administrators. The Corps was in the very difficult position of having to mediate between these various positions and viewpoints and come up with a presentable result. The facts and data which have been collected are extremely interesting and should be very valuable for us in the future when the real choices and real decisions must be made at the State and EPA levels.

Another major factor in the study as carried out by the Corps was that their assignment by Congress was predicated upon the goals established by the Federal Water Pollution Act, otherwise known as Public Law 92-500. The law calls for the "elimination of the discharge of pollutants to our waterways by 1985". Elimination, of course, means zero; it means no discharge. However, it should be also understood that this is a goal of the law, and a goal is something you strive to achieve. In striving for this goal, we must use the best technology available, the best practical methods available, and the maximum financial resources that are available

for the purpose.

Definitions are very important. Depending upon the interpretation of Public Law 92-500, the no discharge goal could apply to "critical" pollutants only; that is, there shall be no discharge of "critical" pollutants. On the other hand, an interpretation could also be made that the no discharge goal relates to no discharge of "critical levels" of pollutants. The distinction between these interpretations is extremely important because we are talking about the difference, for example, between ninety-seven per cent removal and one hundred per cent removal. The costs to remove that final three per cent of pollutant can equal the costs to build and operate the facility to remove the first ninety-seven per cent. So while we are taking out the final one per cent, two per cent and three per cent of pollutants, we could expend public funds, operating dollars, equal to the original investment in various plants and treatment facilities. In terms of beneficial effect on the environment, the cost effectiveness could be very poor.

As related specifically to the Port Huron area, as many here know, the City of Port Huron is presently engaged in expansion of its primary treatment plant to a secondary treatment plant, using the activated sludge process, which will achieve ninety-five per cent - ninety-seven per cent removal of pollutants. In addition, we will be removing eighty per cent of phosphates as required by the federal law. This plant will meet the current requirements of the federal government for wastewater treatment and will be operational in ten months. The capital cost of this plant is some eighteen point four million dollars, eleven million dollars of federal money through EPA, five million dollars of State of Michigan money through

Water Resources Commission, and two million dollars of local funds through the City of Port Huron and Fort Gratiot Township.

During 1969 and 1970, when the decision was made to design and proceed with the secondary plant, we did not argue with the wisdom of, nor the need for, secondary treatment as a minimum required by the present law. We recognized that the significant improvement in the degree of treatment from the forty-five per cent levels of primary treatment to the ninety-five per cent levels of secondary treatment was a wise move in protecting the water resources of the area. However, in reviewing the Corps of Engineers report and, in fact, the review of the technical reports that we have been able to make to date, I have not found sufficient evidence to demonstrate, in terms of hard fact, the need for tertiary treatment at the Port Huron plant.

It seems that tertiary treatment, in one form or another, is assumed to be required simply upon the basis of the letter of Public Law 92-500. Such an interpretation may result in significant amounts of additional federal, state and local money being spent without significant environmental effect or enhancement of the water quality. The additional ten million dollars which would be required, even at today's costs, to add tertiary treatment at Port Huron might better be spent in other areas.

It is recognized in one of the Corps' technical reports that even if the entire plan proposed by the Corps was put into effect and implemented, it may still not have significant effect upon the condition of Lake Erie if other sources outside Southeastern Michigan continue to contribute to the problem unabated. I think it is necessary for the State of Michigan and EPA, in reviewing the report of the Corps, to be extremely careful in evalu-

ating the evidence and the probable degree of beneficial effect which might be derived from a tertiary treatment system in the Port Huron area.

In the brochure of November, 1973, the three representative plans all show the City of Port Huron as the regional IPCT plant. At the outset, I would like to say that if it is proven necessary for the Port Huron plant to go to a third stage, or tertiary treatment, that our present process would most logically be expanded to an advanced wastewater treatment type, or an AWT plant, as previously presented in the informational brochure which was issued in 1972. The addition of a tertiary stage onto the secondary plant which will be operating this coming September, would be a logical sequence of development for the plant. I understand there is concern on the part of the Corps that there may not be sufficient site available for such a third stage treatment. However, should we actually design and construct a third stage, I believe this is a consideration which must be further evaluated in terms of acquiring more land, a better technology allowing the job to be done in a smaller space or perhaps some vertical type of equipment. The presentation of the report showing a physical-chemical process for Port Huron at this time is an assumption on the part of the Corps which I feel is premature. The Port Huron, in terms of Physical-chemical, could be converted within approximately the same site and therefore, the PCT process should be left in consideration as an alternative. I feel that the decision as to the type of tertiary treatment, whether AWT or PCT, should be left to the state and local governments since either of the two systems could achieve the assumed goals of Public Law 92-500. For the present, I feel that the Port Huron plant in the plans of the Corps of Engineers should remain with AWT designation.

In terms of storm water and handling of combined overflows, the brochure, as presented by the Corps, calls for disposal of wastewater, combined sewer overflow and urban storm runoff, by passing them through a treatment system generally located in the area of East China Township. It seems uneconomical to me to transport large volumes of storm water through a series of reservoirs, tunnels, to a treatment site in East China. I think it is much more economical to treat the storm water within the City or Port Huron and environs, at its source, rather than transporting it twenty miles, resulting in use of large amounts of pumping equipment, reservoirs and energy consumption. The sheer size of the transportation system and its operating difficulties make it quite unrealistic. It seems to me that the logical thing is to control the storm water volumes within the location where the rainfall occurs.

When land disposal is considered, remember that land disposal does not totally meet the zero discharge requirement. When the effluent filters through the soil, the water carries through the underdrains and reenters the ground water and thus discharges to the river basin. The degree of removal of viral and bacteriological components becomes variable, depending upon the condition and ability of the soil in a particular location. Further, it has not been determined what the long term effects of continued land disposal of sludges are; that is, what conditions would prevail after ten or fifteen years of continued use of the land as disposal site, particularly when this area would be subject to cycles under the control of man rather than the usual cycles of nature.

In summary, I would like to say that the Corps of Engineers has produced a study and technical data which will provide valuable input into

the decision-making of the EPA, Michigan Water Resources Commission and local agencies. This is not to say, however, that representative plans are totally acceptable. They are the beginning points of discussion and should be considered as alternatives. Those parts of the alternatives which are good, should be retained and incorporated in the future plans; those aspects which are bad should be eliminated. These decisions should clearly be within the prerogative of the implementation, operation and enforcement agencies.

I believe that the interpretation of Public Law 92-500 must be clarified in the near future in realistic terms so that the question can be settled as to precisely what the law intends and we can get down to the business of creating the facilities and provide the degree of treatment really necessary.

Each instance, where a higher degree than secondary, is to be required, I feel that full, complete and decisive physiological, engineering and economic evidence must be set forth by the agency requiring such degree of treatment. Should such evidence be presented, and the decision made to proceed to third stage treatment, the precise type to achieve that goal should be decided upon by the state and local agencies within the time framework of the actual construction so that the advancements and technology, and conditons of financing can be incorporated into a practical project.

The matter of storm water and combined overflow control needs much more study to come up with solutions which can be more easily constructed and operated in the area and at the points of discharge. Moving large volumes of water about Southeastern Michigan in large tunnels is simply transferring the problem from one point to another and does not get at the root of the

problem.

I would like to thank the members of the Corps' staff for their cooperation in discussing these matters and presenting their viewpoint. I think that this study will be of benefit in drawing the attention of the people in Southeastern Michigan to the problems of wastewater management. To that degree, the Corps, I believe, has been more than successful in arousing the interest of the public. It is now time for the study to be turned over to the State to be assimilated into their current program so that we can implement those things which are necessary, practical, and those things which can achieve the required results. Thank you.

Statement made at the Public Hearing in Detroit, MI on 12 December 1973 by:

Bruno Zane, P.E.
Corporate Environmental Engineer
Dundee Cement Company
Dundee, Michigan

In reference to the Public Hearings being held regarding water pollution control and, specifically, to proposals to gather and treat runoff from rain and snow storms, Dundee Cement Company, located in Dundee, Michigan County of Monroe, would like to offer as a matter of record the following statements.

It is the sincere desire of the Dundee Cement Company to do all that it can do to cooperate with governmental agencies to control water and air pollution.

The Portland Cement Association was invited by Mr. Philip B. Wisman of the E.P.A. Information Center - Environmental Protection Agency, Washington, D.C. 20460 to comment on the proposed regulations, published in the Federal Register on September 7, 1973 (FR 73-18868), dealing with water effluent limitation guidelines for cement manufacturing. PCA is the research, promotional and public affair arm of the cement industry, representing the great bulk of production capacity in this country.

The Dundee Cement Company agrees with the following items presented to the E.P.A. by the Portland Cement Association..

1. The period of time available for collection and evaluation of technical and economic data, as well as the period for comment by the industry, makes it unlikely that the specific effluent limitations could

be realistically evaluated. The non-water quality environmental impact, energy considerations, age of the facilities, in addition to engineering considerations did not appear to have been considered in the specific effluent limitations statements.

There seemed to be a great difference in the costs indicated by the Southern Research Institute, which ran the study for the E.P.A., and cost studies made by cement manufacturers. Another example in the Development Document, on page 83, discusses the disposal on plant property of collected kiln dust and gives details of dimensions of the piles, as well as costs. Cement company experts feel that the particular solution outlined is only barely possibly technologically and can be achieved only at exorbitant costs.

The proposed regulations require containment of runoff from the plant areas during periods of high rainfall. The provisions dealing with runoff appear to need further clarification from both an engineering and cost balancing standpoint. There is no authoritative data available in the development documents or elsewhere which indicate the nature of the runoff problem and how it influences effluents from cement plants. The volume and constituents of any pollutants in storm runoff has not been determined, nor has possible solution to such problems been detailed. Cost balancing could not be performed without detailed information. The proposal's statement that dikes and containment ponds be designed for a 10 year, 24-hour rainfall event, needs clarification and elaboration, given the wide geographical dispersal of cement plants.

Provision should be made for unusual or "upset" conditions during which a specific limitation might be unavoidably exceeded for a short period of time. E.P.A. has recognized the need for such relief in the air quality

field in its standards of performance. The same situation exists in the water effluent regulations.

Certain specific points in the guidelines need further definition and clarification. For example, in the discussion of "Effluent Characteristics" (e.g. Section 411.12 of the Federal Register proposal), "total suspended non-filterable solids," is subject to several interpretations. Also, in the effluent limitations set out in Section 411.12 thru 411.15, it should be made clear that consideration is given to concentrations present in the intake water, so that the particular values represent "net" figures. Thus, concentrations in the discharges will be allowed at the same level as those in the intake water where the discharge is into the same body of water.

At this point, we would like to present the following excerpts from The Federal Water Pollution Control Acts Amendments of 1972 (issued by U.S. E.P.A., Office of Enforcement and General Council, Washington, D.C. 20460, January 1, 1973.)

As stated in the 1972 Act, it is the national goal that the discharge of pollutants into navigable waters be eliminated by 1985, and that as an interim goal whenever attainable there be achieved by July 1, 1983, water quality which provides for recreation in and on the water.

The 1983 goal is an objective which carries with it defined, specific enforcement mechanisms while the 1985 goal is an ideal toward which Congress intended the country to strive. To reach these goals, the Act requires that a discharge of waste or of waste-containing water be of a specified, improved quality before its release from a point source to the receiving water, or in some cases that the discharge be prohibited.

It is our interpretation that the intent of Congress when the legis-

lation was passed in setting up the 1985 no discharge into navigable waters goal was that it was an ideal toward which our industry should strive, not an ultimate mandate which can be the cause of economic chaos in industries such as ours.

Statement made at the Public Hearing held in Ann Arbor, MI on 11 December 1973 by:

Mr. William J. Pollard
Co-Director
Citizens Opposed to Super Sewer

The Citizens Opposed to Super Sewer have reviewed the "Alternatives for Managing Wastewater in Southeastern Michigan" presented in Information Brochure No. 2 by the Corps of Engineers, U. S. Army, Detroit District. We are absolutely opposed to the plans presented since, if we understand them correctly, they all include what has come to be known as Michigan Water Resources Commission "Plan II", also known as "Super Sewer". It is clear from the newspaper reports that "Super Sewer" is included in all three alternative plans. It is clear from the brochure that "Super Sewer" is included in the interim plan. It is not clear looking at the maps of Plans 1 and 2 what exactly is located at the mouth of the Huron River, or what the function of the regional IPCT plant is, that is located on the Huron River.

I think that that was made a little clearer by your

presentations this evening, Major. It is not clear in the brochure. In the case of the maps, there are simply too many contour lines to identify the symbols associated with the map. This should be clarified and clearly stated.

Our opposition to Michigan Water Resources Commission Plan II is well known and documented. We have risen to state our objections at every public hearing held on this subject. We and many others have written letters setting forth the reasons for our opposing Plan II. An excellent selection of these letters was included in the Appendix of the EPA Environmental Impact Statement issued last February.

We are very disappointed that you apparently have not critically reviewed the portion of the plan for the Huron River. We feel that by including Michigan Water Resources Plan II you are perpetuating a bad plan. It is bad ecologically in that the marshes at Pt. Mouillee will be destroyed, and bad internationally, not living up to the agreements made with Canada regarding Lake Erie, and bad technically, building a complex transportation system instead of multiple advanced treatment plants.

We find three areas of the proposed Alternatives that we can support. These are:

1. The land irrigation treatment systems but only in the limited areas proposed. I found that maps presented this evening quite confusing. They do not appear to agree with the maps in the brochure and two of the maps presented tonight did not appear to agree with each other.

Expanding on that area, I have two papers which I would like to submit for the record by John D. Parkhurst, Chief Engineers and General Manager of the County Sanitation Districts for the County of Los Angeles. Los Angeles does use the land disposal and water reuse system by percolating it back into the water table.

The second area of support is the general approach we feel that your Alternative Plans Represent, namely the use of multiple advanced wastewater treatment plants, and three, the inclusion in your Alternatives plans for the treatment of stormwater runoff, feeling that this is a modern urban problem that must be faced.

We have the following two questions regarding the alternatives that we should like to have answer to: I will state them now and restate them during the question period. We can understand the administrative and political reasons for including the Michigan Water Resources Plan II in the Interim and Alternative Plans. What, however, is the technical basis for including it? Have you done an analysis that show and demonstrates that the most practical and cost effective wastewater system design has been used. Two, is it necessary to pass through or implement the Interim Plan to arrive at one of the Alternative Plans?

Thank you

Statement made at the Public Hearing held in Monroe, MI on 13 December 1973 by:

Mrs. Jeanne Micka
Pointe Mouillee Waterfowlers Association

My name is Jeanne Micka, I represent the Pointe Mouillee Waterfowlers Association, an affiliate of the Michigan United Conservation Clubs (MUCC). We appreciate the opportunity to take part in this public participation meeting on "Alternatives for Managing Wastewater in Southeastern Michigan" on December 13, 1973, at Cantrick Junior High School, Monroe, Michigan.

Environmental enhancement has become more than just a catch phrase for the U. S. Army Corps of Engineers. It has earned a new measure of value in all civil works projects that are under consideration by the Corps and other governmental agencies. The representative plans for managing wastewater in Southeastern Michigan as presented here by the Corps of Engineers should be no exception to the concept of environmental enhancement. Taking this into consideration, it would seem that any proposals forwarded to the State of Michigan for possible implementation should provide for some element of environmental enhancement in the management of wastewater.

The obvious answer is "Project CURE - Clean Urban River Environment". Why haven't elements of this EPA inspired concept been incorporated into the Corps of Engineers Plans? Project CURE is a conservation concept which has the potential of improving the quality of life in our urban areas through environmental enhancement. It deals directly with management of wastewater in urban regions and offers a way out of a very difficult problem without relying entirely upon miles and miles of interceptors, super sewers or

sewage farms.

As a final thought the Waterfowlers caution against the use of sludge or incinerated sludge for random landfills in valuable wetlands or flood plains which contribute to good water quality in our lakes and streams. We advocate the use of Project CURE in developing Wastewater Management concepts for the Southeastern Michigan region. Copies of Project CURE and other pertinent materials are attached for review by the Corps of Engineers and as a matter of public record.

Statement made at the Public Hearing held in Monroe, MI on 13 December 1973 by:

Mr. Keith Siebarth
Citizen's Pollution Control Association

My name is Keith Siebarth and I live at 9381 Day Road, Monroe, Michigan. I am speaking for the Citizen's Pollution Control Association. In response to the alternatives for making wastewater in Southeastern Michigan, looking at the "total picture" the members of the CPCA feel that we have not been assured that our land will not be used for application of sewage sludge and wastewater. In a letter dated February 16, 1973 from the Army Corps to Congressman Esch it is stated that 64 square miles in Monroe County is capable technologically for land application of wastewater.

We question the use of "huge lagoons" in our county. What is this wastewater to be used for? Where and how will it be treated? In Muskegon County Mich. suggested use is to use their large "lagoons" in conjunction with Atomic Plants for their cooling process. Do we in Monroe County have reason to suspect this also? Why should we agree to spraying wastewater over other counties when we don't consider it good enough for ourselves?

We also question the judgement of the concept. . .Regional (Plan 1). If any concept, such as the "Super Sewer" is finalized, then we again bring it to your attention that we do not wish our farm land in Monroe County to fall "victim" to "land application" of sludge or wastewater from Metropolitan areas or the City of Monroe. We believe in decentralized wastewater treatment facilities near the various population centers with proper incineration of sludge.

We are finding many unanswered questions concerning physical-chemical, for example the problems of additional amounts of sludge and special treatment needed. Considering that Monroe County is reluctant to build a necessary State ordered Sludge Incinerator for a Secondary Treatment Plant and since the sludge product can't be landfilled and jurisdiction comes under the Oil and Hazardous Waste Division of the DNR, therefore we as citizens question. We feel that tertiary plants and sludge incinerators should be given top priority throughout the state.

According to the Army's own documentation, sludge with wastewater removed, can be burned with very little auxiliary fuel, and that once started, the sludge should provide sufficient fuel to sustain combustion without additional fuel.

Obviously, the fuel shortage issue should not enter into the picture as the reason for not building an incinerator in the City of Monroe, as we know hydrocarbons burn readily and yield much heat. The use of sewage by-products (methane gas) as a source of fuel has been seriously overlooked.

Land application simply isn't feasible since the chemical analysis of sludges are incomplete, metals are above levels of acceptability, as they are not removed in the Secondary Treatment process and the over-all land application plan has no concrete answers as to the long term effects.

Here in Monroe County, once lake bottom, if Mechanical Analysis of soils had been consulted, tests would show that we are not the sandy, barren land with no stable agriculture base as Muskegon, Mich. Our soils are mostly clay, subject to ponding, which could result in a change of the PH factor. A soil that received an average rainfall of 30" to 34" a year and when we have a wet season, no matter what fertilizer is used, plants

can't utilize nutrients from the soil, filtration at a slow rate will not accept a minimum of 80 more inches of wastewater a year as you have proposed. This simply will not restore the balance of nature.

According to the Monroe Evening News, March 13, 1973, Monroe County's farmer already is using too much nitrogen, phosphorous and potassium on the farmland. This is resulting in polluted groundwater, streams and rivers. And the solution to pollution is not dilution. We're in enough trouble already.

In conclusion, Citizen's Pollution Control Association members believe that tertiary plans should be given a closer look and the sludge incinerator must be built in the City of Monroe before we can believe that our farmland in this county isn't in jeopardy. Thank you.

Statement made at the Public Hearing held in Monroe, MI on 13 December 1973 by:

Mr. Lawrence Leibold
Lake Erie Advisory Committee

My name is Lawrence Leibold, I live at 471 Arbor Avenue, in Monroe. I represent the Lake Erie Advisory Committee which is a provisional body of various conservation organizations in Southeastern Michigan and Northwest Ohio. The explicit reason for the existence of the Lake Erie Advisory Committee (LEAC) stems from a basic concern for the propagation of an environmental consciousness among the people who inhabit the lower portion of the Great Lakes watershed. Our collective efforts can be viewed as the search for a better way to improve the quality of life along the shores of Lake Erie.

Having reviewed current proposals by the U.S. Army Corps of Engineers, Detroit District, regarding attainment of good water quality in Southeastern Michigan, it has become apparent that emphasis has been placed upon grandiose engineering feats such as the development of gigantic underground interceptor networks. The use of interceptor sewers would deprive the region of vital ground water. Seasonal runoff would be flushed through a maze of artificial conduits into huge impoundments where the contaminated water

would be stored for treatment in a regional sewage plant with the final outfall in Lake Erie. If the water is good enough at that point for Lake Erie, then it should be good enough for the various tributaries. Runoff should be treated locally and released into rivers and streams within the region. Don't dry up our precious rivers and streams. Preserve the water table. Abandon the interceptors. **Keep** the water where it belongs. Cooperate with nature.

To put this Corps of Engineers program into the proper perspective not the final price tag of the Panama Canal in 1914. The Panama Canal cost the U.S Taxpayer 380 million dollars as a revenue producing venture. Any one of the various Representative Plans offered here by the Corps of Engineers for Southeastern Michigan alone would cost 373 million dollars per year for capital investments and operating costs. The expenditure for this colossal sewage scheme would cost the equivalent of a Panama Canal per year for as many years as it would take to assure good water quality in just the Detroit vicinity. There must be a better way. Our recommendation is to de-centralize the sewage and wastewater treatment centers. The Corps should study the "headwaters" concept which places water where it belongs into the rivers and streams. Not only will it cost less but as the state of the art in sewage treatment improves so will the water quality at a vastly reduced cost without a gross expenditure in capital improvements and operating costs.

Thank you, Colonel Hays.

Statement made at the Public Hearing held in Monroe, MI on 13 December 1973
by:

Mr. Howard McNee
Organic Farmers and Gardeners of Michigan

My name is Howard McNee and I am an organic farmer and also sewage disposal contractor. I represent the Organic Farmers and Gardeners of Michigan. We wish to go on record as being totally opposed to this idea of burning sewage sludge. We believe that this solid material from the wastewater treatment plant should be recycled - returned to the farm land from where it came. Several of our members have spread sewage sludge on farm land and we have found that sewage sludge is a valuable fertilizer.

We feel that it would be criminal to burn sewage sludge for the following reasons:

1. It is criminal to use fuel to burn up valuable fertilizer when we need all the fuel we have to heat our homes.
2. It is criminal to use fuel to burn sewage sludge because additional fuel will be required to produce synthetic fertilizer.
3. It is criminal to use our precious fuel to burn sewage sludge because the synthetic fertilizer which must be made at the cost of even more precious fuel is inferior in quality to the natural fertilizer, sewage sludge.
4. It is criminal to use fuel to burn sewage sludge because burning a fertilizer like sewage sludge adds pollutants to the atmosphere.

Now, of course, there are a few people who will not agree with this.

Some people are afraid of sewage sludge. Some people are afraid that some nameless micro-organism may conceivably be in this material that could hurt them. They forget that these same nameless micro-organisms are also in the top soil. No one has suggested that we scrape up the top soil and truck it to the incinerator to have it sterilized.

There are those who would like to think of organic farmers as a bunch of crack pots or at least a bunch of old-fashioned, reactionary farmers. But I submit to you tonight the fact that about twenty-five area organic farmers have used sewage sludge on their fields and found sewage sludge to be a superior fertilizer. No one has gotten sick from using this fertilizer. No one's well has been contaminated by this fertilizer. No ill effects of any kind have resulted from the use of this fertilizer.

We, the Organic Farmers of Michigan, ask that the Corps of Engineers reconsider their recommendation. Please don't burn up our fertilizer.

Statement made at the Public Hearing held in Detroit on 12 December 1973
by:

Mrs. Verona Morse
League of Women Voters

As the League of Women Voter representative amidst agencies which made up the Coordinating Committee, I've been trying to find out what the public will get -- the total picture -- total plan -- and how much it will cost.

We keep hearing, "If you want a cleaned up environment, you must be willing to pay the price." But I'm painfully aware of the millions of dollars of tax monies spent by government agencies which have not cleaned it up but have in fact caused further degradation of the environment. For instance, channeling of over eight thousand miles of our nation's rivers to date has destroyed those miles of river and wiped out the life dependent upon the natural river. Usually new problems are created which then need to be solved with more tax money. The cost of channeling 4.2 miles of the Rouge down river alone cost over forty million.

So I know I can't assume the fantastic price tags of the alternate plans, varying from seven billion for the interim plan to nineteen billion for the third representative plan over a fifty year period, assures us of an equal value in improvement to our environment.

The crucial question remains, "What will the end result be?"

This hearing is on four alternate plans. But are there really any choices? The first plan is called the Interim plan (the name implies it is not the final plan) which you have said is the State's plan. This includes the controversial Huron River Super Sewer. Since the alternate

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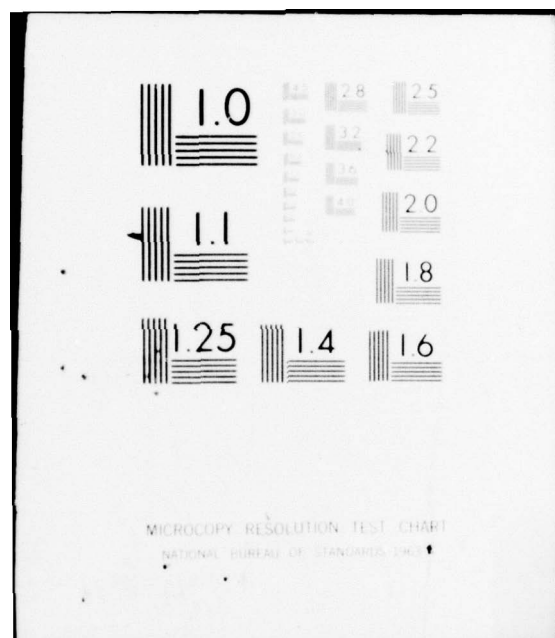
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plan being considered for the super sewer is also called an Interim plan for Plan 2, I hope this won't be confusing to the public. Does this Interim plan being part of this hearing include the Wade Trim Tunnel plan for the Rouge River? How deep and what size are the anticipated sewers?

While there are some variations in the three representative plans with the later two using land treatment at two sites, they are essentially the same. They all employ an extensive deep tunnel system, collection and Treatment of all stormwater and large sewerage interceptor systems to large regional treatment plants. All cost around eighteen to nineteen billion dollars over a fifty year period. Small inland treatment plants would be abandoned as outlying areas could be brought into the regional system. The League's stand on regional planning does not necessarily mean regional treatment.

Would retaining and updating small inland treatment plants keep more options open? Bigger is not necessarily better.

Costs of construction of sewer lines carrying sewage from outlying plants all the way to the mouth of the rivers might better be spent to improve treatment of plants closer to the source of sewage. As new technology is developed wouldn't it be easier to test it at a small plant than large regional ones?

Did you really develop alternatives or did you and other government agencies decide upon a plan of super sewers, deep tunnels and storage and are you now about how it can best be implemented? In the Interim plan the degree of treatment is related to the size of the body of water discharged to, less treatment being required when discharging to St. Clair River, the Detroit River or Lake Erie than when discharging to inland streams. If the

effluent discharged to inland streams is of a high quality it will not be detrimental to the stream.

Will this plan be done piecemeal? Will the first projects create the need to implement further projects in line with your plans?

The original soil conservation mandate, "Hold the raindrop where it falls," made good ecological sense then and still does. How about holding back drainage to allow it to sink into the ground to replenish the ground water supply? Rushing all the water off the land via deep tunnels is like pulling the plug out of Southeastern Michigan. Drying out the land in an area of five thousand three hundred and seventy-two square miles (about three million acres) could cause the soil to shrink and foundations of homes to crack. According to news stories, Houston, Texas is having a measurable amount of shrinking due to heavy use of ground water which is not being replaced.

Some of the best agriculture land is in Southeastern Michigan. How do you know that this prime agriculture land won't be adversely affected?

If you are planning to collect and treat all stormwater for Southeastern Michigan and rush it off the land by a deep tunnel system -- pulling the plug out of Southeastern Michigan, you must tell the public what the results will be. Will this successfully solve the wastewater problems of Southeastern Michigan or will it be a major catastrophe?

I would like to thank you for your courtesies during the meetings and the issues are sometimes not agreed upon, but certainly not personal.

Statement made at the Public Hearing held in Port Huron, MI on 12 December 1973 by:

Mrs. John Donaldson
President
Birmingham - Bloomfield League of Women Voters

My name is Mrs. John Donaldson and also I am President of the Birmingham-Bloomfield League of Women Voters. I am also a member of the League of Voters

I want to first of all thank you for your annual Christmas party. We were all here last year at this time.

The League has been interested in water quality preservation for years. To that end we have worked hard in Washington for high water quality standards and for adequate federal funding of treatment plants. We are also concerned about water quantity. No one should know this better than the Corps of Engineers, because for quite some time now, we have been asking one question about our water supply that has gone unanswered. Unfortunately, the answer is not to be found in your red books -- nor was it given to Mrs. Morse when she posed the question at Coordinating Committee meetings. Hopefully you can enlighten us today.

Our question is simple, but important. WHAT WILL HAPPEN TO THE WATER TABLE UNDER SOUTHEAST MICHIGAN WHEN THE SYSTEM OF DEEP TUNNELS THAT YOU PROPOSE DRAW OFF THE WATER FROM HEAVY RAINS?

We all know that we are walking around on, working on, playing on, living on a beautiful, bountiful natural reservoir of water. The top of that reservoir is called the water table, and between us and the water table is a varying depth of earth. Periodically, nature turns on the taps and gives us a heavy enough rain to saturate this spongelike layer. Once saturation is complete, the rain water continues further down to the ground water reservoir--recharging it and raising the water table. Thus nature has replaced the water that man has syphoned off via his wells. Obviously, this recharging processing is necessary and desirable. We need that tub of underground water--to refill our springs (and form them, our streams) and to assure us of adequate supply.

Now, it sounds like you are proposing to pull out the plug whenever nature turns on the taps. If you do, and if the heavy rains that are intended to refill our tub go down the drain of your deep tunnels, can we live without our reservoir? Or are we just going to be left with a useless bathtub ring?

Can you tell us what your hydrologists and geologists have discovered, the effects of draining off all this stormwater will have on our water tables?

Statement made at the Public Hearing held in Monroe, MI on 13 December 1973
by:

Mr. John R. Iacoangeli

My name is John R. Iacoangeli, I am a Planning Technician with the Department of Community Development in Monroe. I am also Coordinator of the City's Environmental Liaison Unit.

Mr. Chairman and other Appointed Representatives. The objective of the Wastewater Management Program was to set forth, for Local, State and Federal consideration, a range of choices for managing the wastewaters in each area that could improve water quality and be compatible with programs for total water management and use.

I would like to reiterate the City of Monroe's opposition to any plan that calls for implementation of Wastewater Treatment through land irrigation and filtration. I would however like to state that the City of Monroe does support Coordinated Regional Planning of Wastewater Facilities on a decentralized scale of operation.

This opposition toward centralized Regional Wastewater Facilities stems from the following reasons: several of which apply specifically to the proposed Regional Wastewater Treatment Plant at the mouth of the Huron River.

1. Because of a North to South drift in currents in Lake Erie, effluent from the proposed Wastewater Treatment Plant (at the mouth of the Huron River) could enter the City of Monroe's water intake approximately eight miles south of the outfall.

If the water intake for the City of Monroe is located within the effluent plume of the wastewater outfall, the City of Monroe is concerned about the additional expenses of filtration and purification that will be incurred.

The proposed outfall may have adverse effects on the aquatic life at Pointe Mouillee and areas to the South having moderate ecological value.

Could the effluent dispersion from the outfall cause or lead to indicate an increase in bacterial activity which is associated with a highly aquatic system.

Will the construction of such proposed regional Wastewater Treatment Plants change existing shoreline land use patterns in Southeastern Michigan.

The concept of decentralized tertiary Wastewater Plants within the respective river basins has not been adequately assessed as an alternative measure to Wastewater Treatment.

It should be stated that a technological failure in a Regional Wastewater Treatment could easily cause an ecological disaster along the Southeastern Michigan shoreline.

Finally, I would like to recommend further analysis of Wastewater Management and respective alternatives but only on a decentralized format. Basically, this type of process has proven the most efficient in regards to agricultural communities and small urban areas.